

# MINICAM



For Every CAMERA User

JUNE

The Miniature Camera Monthly

25¢



IN TRAINING FOR 4TH OF JULY

By CAROLA RUS

● A Kodachrome shot taken at 1/30th second, f4.5. Leica camera on tripod, Elmar 3.5 lens. When shooting color pictures outdoors, have sun behind the camera for flat lighting. Shadows in color pictures are inclined to be too black, especially under the summer sun. For this reason, it is a good idea to

arrange one or two white reflectors. A large white card or sheet held at the side of the subject to illuminate the shadows can turn an ordinary color snapshot into a fine picture. Such a reflector is especially necessary when the sun's light comes from the side.



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## How To Do It

Sirs:

Now I'm going to tell you what I think of your magazine.

Your magazine tells HOW. Every camera bug when he sees a picture is not interested primarily in the picture. Of course he likes it or he doesn't like it, but he wants to go farther than that. He wants to get behind the scene and get the dope. He wants to know the lighting and the film, the exposure and every bit of arrangement that went into the making of that picture. When he knows this he'll try to do it himself.

To make it even plainer, I get mad as hell to see a picture that hasn't the dope that will enable me to make an attempt to duplicate it.

You, however, have answered (and here I go) the need long felt on my part. Not only do you give the picture, but you tell us this—HOWHOWHOWHOWHOW.

Make it your policy to put the mechanics on every illustration and picture and you'll continue to be the best of the lot, and there are a lot.

WILLIAM D. POTTER.

Lansing, Mich.

## Shoot the Screen

Sirs:

MINICAM likes to hear about more experiments, I notice, in which amateurs try to imitate the masters of photography.

I have found this to be a very good practice. Most of my best shots have been ones which I more or less copied from a shot by an experienced photographer.



I read about taking shots directly off the movie screen in MINICAM. Since I don't own an ultra fast lens, I just loaded my trusty



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# C O N T E N T S

Vol. 1

JUNE, 1938

No. 10

## MINICAM MONTHLY

WILL LANE, Editor

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Argus into my pocket and attended a performance of Seventh Heaven. Holding the camera in my hands, and giving bulb exposures of about 1 second at *f*4.5, I exposed 21 frames of DuPont Superior. To my complete surprise, several of the pictures came out well, and enlarged beautifully up to 8 x 10. The best, a closeup of Simone Simon, is enclosed.

RICHARD C. KINSTLER

Southgate, Ky.

### Self Portrait

Sirs:

I agree with Mr. Jarebie who objected to the choice of winner in the Self Portrait Contest. ("In Focus" of April issue.)

Perhaps a more beautiful winner could have been chosen if the "talking" foto'ers (Mr. Jarebie, myself, et al.) had submitted entries.

What I am pleased to call a self-portrait is enclosed; an Argus shot on Agfa Superpan *f*4.5, with a copy lens attachment. Illumination was furnished by a 75-watt mazda in a shaded pin-up lamp on the wall eight feet away.

Mechanics were Dr. Seuss arrangements: seated on the bed's foot, I placed the Argus against a pillow at bedhead, turned around to hold the box steady with one foot, pulled the trigger with a toe of the other (I am always

bare-footed chez moi). Leaning both elbows on knees and pitching a dopey wool-gathering gaze



into the corner, I toed-off the shutter for about one-half second (using "bulb").

Minicam is the only magazine coming into this stronghold which cannot be clipped. I found this out by accident when I attacked 18 tons of Life,

Time, Esq., etc, with a pair of shears. I could even clip Reader's Digest, but when I came to MINICAM I gave up in bitter chagrin—every page of MINICAM is indispensable. I read all the photo mags but for pith, give me MINICAM!

ARCHY FAIRLY.

Hattiesburg, Miss.

### Cellophane Filter

Sirs:

For unusual cloud pictures, I use a piece of dark red cellophane held with tape over the

lens. I increase exposure 4 times, using  $f/8$  ( $1/50$ th second) when  $f/16$  is indicated by my Weston exposure meter.

P. M. GARRISON

Mount Hope, Kansas.

### Perspective



SIRS:

After reading the article on "Perspective" in MINICAM last month, I took this violent perspective shot. It was made with an Argus held up close to the outstretched hand. To get it in focus at this short distance, diaphragm was stopped down to  $f/11$ . Exposure  $1/25$ th second, Super X film. I think it has something in common with the "Feet First" picture in the recent article by Bob Leavitt, and now that I think of it, Leavitt has a shot like mine in the

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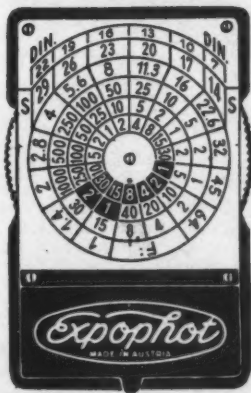
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first issue of MINICAM—except that the subject was a cop with outstretched mitt.

Brooklyn, N. Y.

HAROLD STERN.

## Leica Bulk Film

Sirs:

Leica users who load their own bulk films are cautioned not to wind the film on the spool too tight, as this is liable to cause scratches that show up later when enlarging.

After the roll in the camera has been exposed and is being rewound back into the film magazine, most Leica users rewind until the film is disconnected from the take-up spool and completely rewound into the film magazine. Or, if they want to remove the film from the camera and replace it later, they wind until the film is just disconnected from the take-up spool and then stop.

If the film, as is usually the case, is fastened rather firmly under the clip on the take-up spool, it requires considerable force to disengage it. This pulls on the film enough to wind it very tightly on the magazine spool, and this should be avoided, if possible.

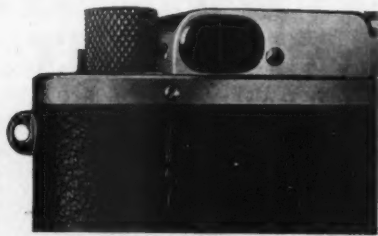
One way to avoid it is to rewind slowly until enough resistance is felt to indicate that the film is in the same position as it was when the camera was closed, with the end of the film still fastened to the take-up spool, then stop, and open the camera.

D. M. DECKER.

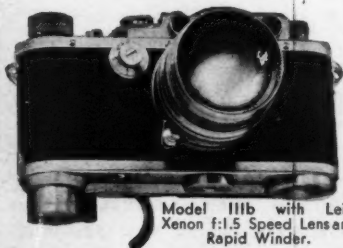
Philadelphia.

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(Back view of Leica Model IIIb, showing rangefinder and viewfinder eyepieces situated closely together.)



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# Statues Have Patience

If you have a camera, the combination can result in compositions second to none for drama and effectiveness.

Written and illustrated by  
RAMON ELFENBEIN

**P**LAN your picture—visualize the finished print before you snap the shutter.” This good advice often is impractical when shooting camera-shy or rapidly moving subjects. But when you get a chance at beautiful statues outdoors you can really go to town and get practical picture-taking experience that will improve your technique a hundred per cent.

There are your models—waiting for you—as good as human subjects, if not better. Statues have patience; you can study them from various angles and watch the effect of the light's changing angle as the sun moves slowly across the sky. Every park is full of waiting models, and even ordinary subjects will furnish material for outstanding photographic studies.

Like many others, I overlooked these possibilities until I came upon the outdoor sculpture exhibit of the Sculptors Guild in New York. The scene of sunlight, curves and angles with the background of modern skyscrapers was too much for me. Home I went for Minicam, tripod, swivel head, lens shade, cable release, and filters—a yellow “K1” and a Red “A” filter.

One of the most interesting and at the same time most difficult statues to photograph at the exhibit was Fig. 3, the nude figure of a young but mature negress. There was so much apparent to the eye and so much implied, that the combining of these two forces into a print telling the whole story was slow work. First of all, there was a certain animal vigor expressed in the arched posture of the upflung arms encircling the head. The proportions of



YOUTH

Fig. 1

● A forthright figure with straightforward treatment and composition, it was outlined against the sky by means of a red (A) filter. Exposure 1 second, f/16, Kodak Retina on a tripod.

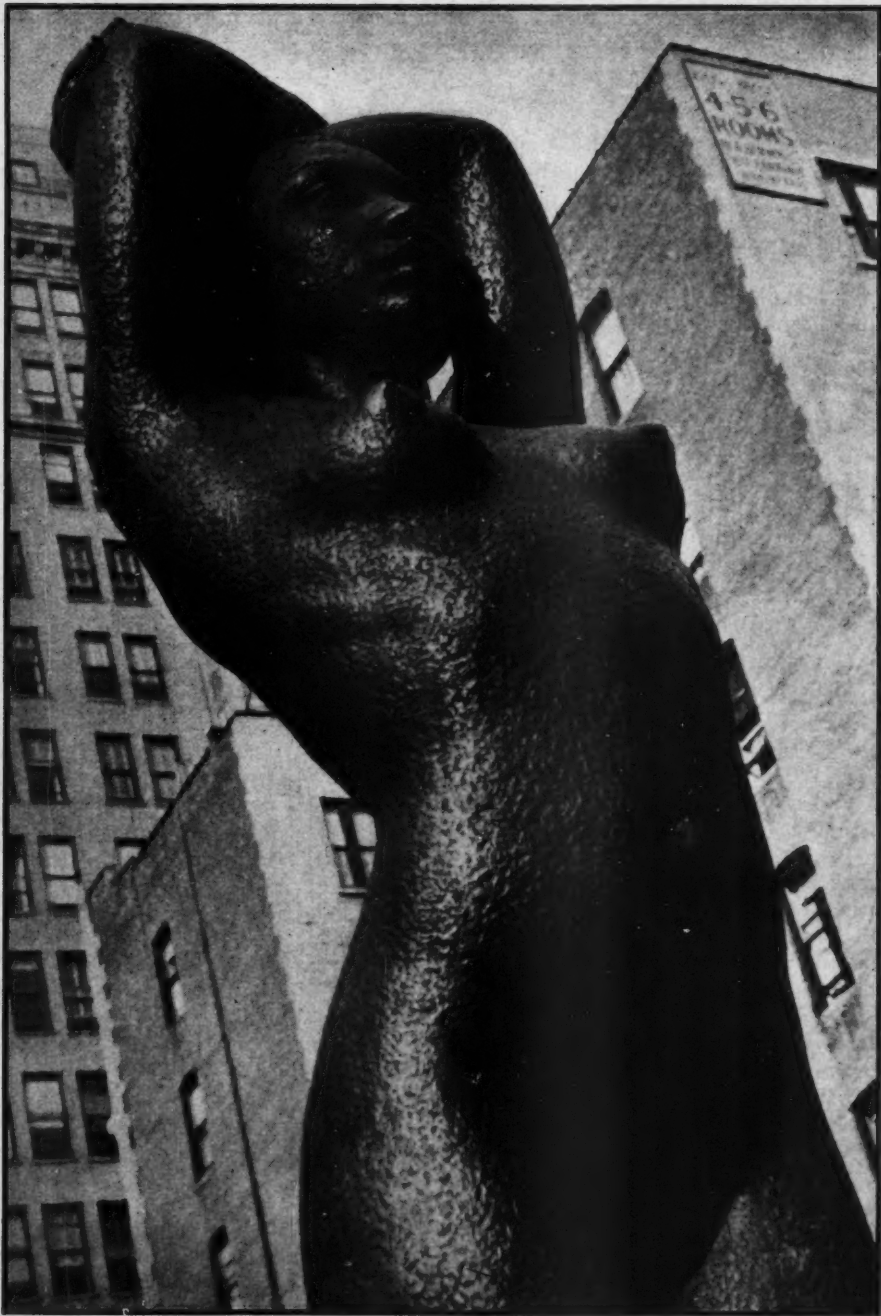


BONDAGE

Fig. 2

● The barbed wire fence which enclosed the entire sculpture exhibit and caused many a headache to photographers, was utilized here for the symbolic meaning expressed in the title. Exposure 1/5th, f/16.





**TEXTURE**

**Fig. 3**

- The contrasting angular lines of the buildings in the background give impetus to the vigorous upward motion of the figure. Exposure 5 seconds at  $f/16$ , Super X film.



**EAST INDIAN WOMAN**

**Fig. 4**

● Again chance provided as effective a background as could have been obtained by most careful phanning. The network of bare branches, in sharp contrast to the polished symmetry of the head, gives the photograph an almost religious poignancy. The lighting was obtained by waiting for the afternoon sun. Exposure 1/5 at f/16.

the figure were excellent and I was afraid that an extreme angle shot might spoil these. However, the contrasting angular lines of the buildings in the background, when viewed from a lower angle, gave impetus to the upward motion of the figure. Then again, the flat diaphragm, when viewed from a position well below conventional eye level, formed a dark area which balanced the shadow inside the arms around the head.

The late afternoon sun gave interesting catchlights to the figure and brought out

texture. It also illuminated the background where I wanted detail. The background of buildings and sky was kept light in tone to lend emphasis to the main subject. For true emphasis, the greatest contrast differences always should lie between the main center of interest and the surrounding objects.

The head of the East Indian woman, Fig. 4, was perfectly presented against the natural background already provided. The network of bare branches furnished a sharp contrast to the polished symmetry

of the head. It is this background that gives the photograph its almost religious poignancy.

As the image consisted only of the head and quarter bust, an angle was sought that would give an impression of completeness, an impression of the entire figure. Most interesting was the texture of the stone. Waiting for the afternoon sun obtained the desired highlights on the face. A contrasty print imparted additional emphasis to the face's latent power.

With hundreds of visitors—and competing minifans—tramping around me, it was no easy job to get proper angles and lighting. I saw at once that for sharp and distinctive backgrounds I would have to get everything from five feet to infinity in focus. This meant stopping down to the Kodak Retina's smallest opening, *f*16. No premium on speedy lenses here, I thought. A box camera, provided it is mounted on a tripod, can successfully compete with the costliest machine before stationary subjects.

Angle was the next subject up for decision. There are those who maintain that a camera always should be pointed at a subject from approximately eye level. With this school of thought I completely disagree. The most effective picture, I think, is the one taken from a "different" angle. I always try to shoot from an unusual angle, from an angle other than the one the eye is used to seeing the subject. All of the shots shown here were taken from a point of view *below* normal eye level.

The problem of photographing the girl and fawn, Fig. 5, was somewhat simplified in that there was only one area of background sky free of buildings. The cubism of architecture, I decided, had no place in this study. With my angle already chosen for me, as it were, my only problem was to wait for the correct lighting. This point was rather difficult to decide and I wasted some time fussing around. A little later my mind was suddenly made up for me when I saw how the slanting sunlight outlined the edges of the figures and at the

same time gave a diffused lighting under the breasts and behind the fawn's head. Again I deliberately underexposed the shadows, as I wanted dramatic quality. This, I believe, is primarily achieved by eliminating unimportant minor details. Using a K2 filter the exposure was a half second at *f*16 on Super X.

The subjects at the beginning of this article presented other problems. In Fig. 1, for example, the delicacy and forthrightness in the clean-cut figure of the young girl led directly to extreme simplicity of treatment and composition. It was a simple matter to decide what lighting would be best and there only remained the problem of angle in vertical terms. Because of the restrained vigor in the posture of the figure I decided that the legs could easily stand the slight extra heaviness a very low angle would cause. The white sparkling quality of the stone, then, would be contrasted against a sky unencumbered by buildings. I used the A (red) filter, allowing an exposure of one second at *f*16.

"Bondage," Fig. 2, by chance provided a background to illustrate an abstract conception, that of enslavement. To suggest the theme of "slavery in the big city," the barbed-wire fence, which encircled the entire exhibit, was made part of the significant background.

When I saw the head, the heavy negroid type on a square pedestal, I felt that its thought and spirit required for expression a dark, brooding mass against a lighter background of vertical buildings. I made mental note of this and the lighting requirements. While waiting for the sun to move around to the desired position I analyzed and photographed other exhibits in the same display. When the sunlight slanted across the cheek of the head, bringing out the heavy cheek bone and jaw line, and when the buildings were lighted by reflected light, then and only then, did I make the exposure. The angle from which the shot was made was chosen to enhance the heaviness of the jaw and to increase the prominence of the negroid



#### FAWN IN THE CITY

Fig. 5

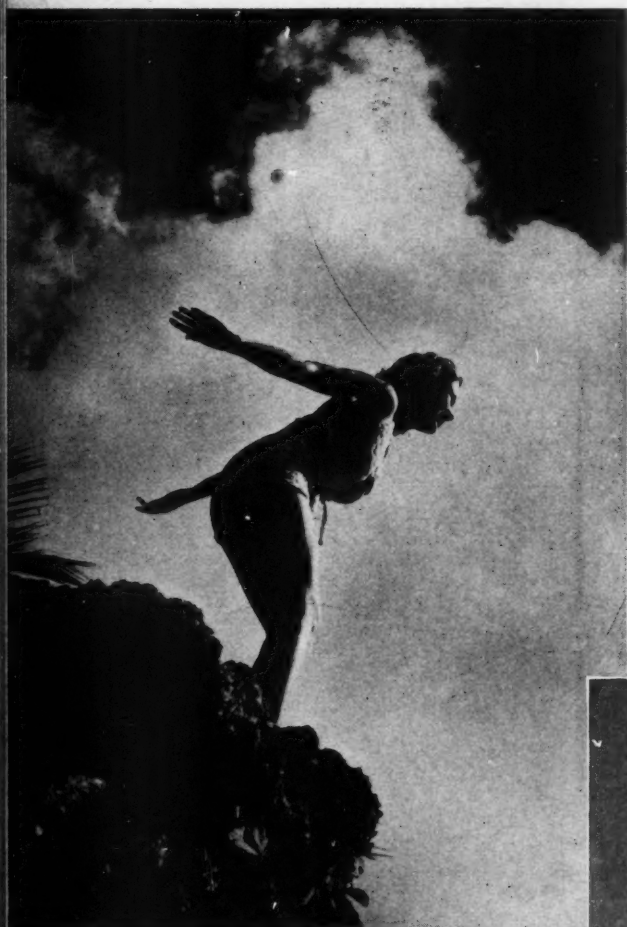
● For this rustic scene, complicated architectural angles such as in Fig. 3, were not wanted. Note how the slanting sunlight outlines the edges of the figures and at the same time furnishes diffused lighting under the breasts and behind the fawn's head. To darken the sky, a yellow (K2) filter was used,  $\frac{1}{2}$  second at f16.

features. Shadow portions were underexposed to produce the low key effect.

Eastman Super X film was used

throughout. Development was in MPG for 20 minutes at 65 degrees in a Nikor tank and prints were made on PMC No. 9.

# Keeping Up With the Fast Set--- *Photographically*



*Take this imaginary camera shakedown cruise and learn what your camera can and cannot do.*

HIGH DIVE (left)

By K. W. Williams

COORDINATION

By George Maloney

● Two outdoor shots from the Kodak International Exhibit, 1938.

By  
LEONARD W. MARTIN

**E**VERY owner of a camera capable of shooting at  $1/200$ th of a second or faster has the urge to shoot at top speed—just to see whether the camera will pick out a neat slice of action and imprison it forever on a little square of film.

Sometimes the camera does not get the action. The reason for the failure? Most





frequently it is the fault—not of camera, shutter or film—but of the shutter-clicker in person.

Let's go out, for the fun of it, on an imaginary shooting junket. For high shutter speed we want fast film and bright sunlight. Beaches and swimming pools these June days are full of willing subjects—even if they are charming showoffs, as well.

If there is a diving board at the pool, we can be sure it will attract all sorts of human swans and not a few duds.

Poised for action, a beautiful diver can be shot at low speed, although about  $1/100$ th would play safe. Jumping on a spring-board represents the next degree of action and requires about  $1/300$ th second for a crystal-sharp negative.

It is important to "frame" the picture. Minimum shutter speed is necessary in order to maintain some depth of focus. The girl on the cliff (it looks like a



#### REVENGE

By J. E. Skittrell

● People move less fast in the water, but fast enough to require a shutter speed of  $1/200$ th second to catch closeup action. Photograph from Kodak International Exhibit.

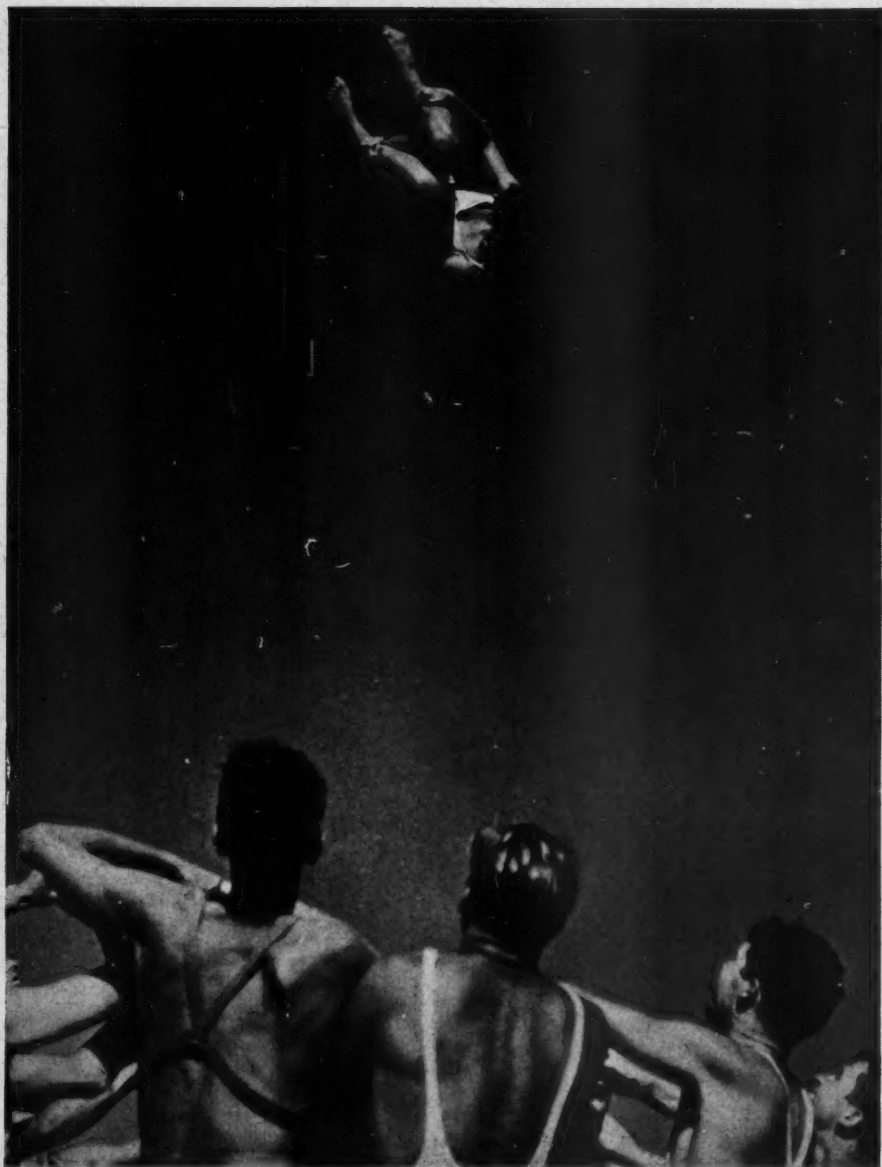


high cliff but even very low ones look that way when you shoot up) is far enough from the camera to indulge in several actions and still remain in focus. She can wave her arms, jump up and down, move sidewise and still be in focus. This is important since most people in action are unpredictable.

You may have a fairly good idea of the variance of their action when they are going to perform some interesting routine such as diving, but you cannot be absolutely sure they will stay in focus if you are working too close, or if you have the lens open so wide that you have to be focally right on the nose every time.

Movement in the water, such as that illustrated by the girl ducking her friend,

● Snapping leap-froggers is good, clean sport, but not so easy as it looks. Better make more than one negative. Shot head on, this required  $1/500$ th at  $f/2$ . From a greater distance or from the side,  $1/200$ th would have been adequate.



# UPSY-DAISY

By ROBERT KENNETH WEITZEN

● What looks like ordinary horseplay on the beach may result in a fine print composition like the above, shot at  $f/4.5$ ,  $1/500$ th second.

does not require as much speed as jumping movements, such as leapfrog.

In all cases, the shutter speed required is determined by three factors:

(1) The speed of the moving object.

(2) The distance of the object. The closer to the camera, the faster the required shutter speed. To illustrate this, try focusing on a clock pendulum. Notice the rapidity with which the pendulum

moves back and forth across the field. Back up, say twenty feet, focus, and you will notice that the movement across the field appears considerably slower.

(3) The direction of the object's movement in relation to the camera. Minimum shutter speed is required for objects moving in line with the camera, directly toward or away from it. Double this minimum speed if the same object is moving at a 45 degree angle. Triple this minimum shutter speed if the object is moving at right angles across your line of view.

While it's fun to photograph at the highest possible speed (more or less like giving the gun to a new car so that you can tell your friends how fast it will go) it's good photographic practice to be conservative in your use of shutter speed.

On our little shooting expedition, we see two bad bad men about to throw a pretty girl in the water. Now, to shoot this, we can stand at the side of one of the men. Then when the girl is thrown into the water, we will have a fine shot of her feet going past the camera with plenty of grey haze so that it will look as if she is a human centipede. But we don't want that. So we take our position behind them and up. Then the action, when they swing her back and when they bounce her forward into the water will be in the direct line of our lens.

How close shall we be? We could get close enough to count the vertebrae in the backs of the men but if we did that our range of sharpness would be limited. The closer you are to a subject, the more critical the focusing. When you are

(Page 77, please)

● Here the victim (see top snapshot) appears to be enjoying things as much as the lucky lensman who had the foresight to set his shutter for 1/500th before venturing out on the pier. Note, in the center shot, that the girl is stopped, perfectly, in mid-air.

MONKMEYER PHOTOS





• This right eye, looking straight into the camera, seems to follow you until you stop and ask, "What have I done now?" It illustrates the power of the eye. Treated correctly in portraiture, it is one of the most important features—and the first outstanding fault if improperly handled.

## Unfamiliar Familiarities or portraiture *a la carte*

By W. MANSFIELD WHITE

PHOTOGRAPHS BY THE AUTHOR

FOR his effects, the caricaturist exaggerates individual features and distorts their relationship to one another. The portrait photographer, for his effects, attempts to create a pleasing relation of one feature to another, in normal proportions, by accentuating certain features and minimizing others.

If you have made studies of individual features on the human face, you probably were surprised to discover how different these features appeared when disassociated from the rest of the face.

By studying individual features of the human face, you may learn something interesting about portrait photography. The average person sees the entire face as a smoothly-worked-together collection of elements. The study of one individual feature rarely enters his mind.

Yet, to achieve effects in portrait photography, you must see, rate and evaluate individual features and their relation to each other and determine which to accentuate and which to minimize.

The study of features teaches the photo-

grapher to see in terms of individual features so that he can adjust their relation to one another, minimize defects and accentuate the desirable characteristics.

The make-up artist and the portrait photographer both seek to create a pleasing face by an approach to the normal face.

What is the "normal" face? Well, to begin with, not one person in a thousand has a pure classic or normal face. But there are some proportions established. If you draw a line beneath the hair line of a face and then divide the rest of the face into thirds, horizontally, the features should be arranged in specific places in those thirds.

The eyes and the eyebrows should be at the bottom, or a bit below the first third, and there should be the space of one eye between.

The nose should occupy the second third of the face. And the mouth should occupy a position about two thirds from the bottom. These are, roughly, normal proportions. As a face approaches these proportions, it becomes a regular, normal or pleasing face. And most people who look at any picture of themselves prefer to believe that they have a fairly close approach to a normal face.

However, your good portrait photographer and your make-up man allow exceptions. Thus, if one or more features are

exceptionally good in regularity, cleanness of line and perfection of modeling, that feature is accented. Thus, if an actress has an appealing mouth, though large, the make-upman does not reduce its size by painting out sections. In fact, he might even



- A straight forward treatment of an every day scene, these female lips present a startling subject. One is held by the mere simplicity. Nature always does a graceful job when it comes to curves. Shot at f8, 1 second, 1 photoflood. Note the dried up lipstick, which quickly lost its charm under the close light.

- Not a nude, but a close up, inverted, of a nose. The picture was turned upside down, in an attempt to get away from the association of the subject, and to get only the design and pattern. Many objects are beautiful, if they are dissociated from the ideas and locations that surround them.





● Divide a face in thirds to study its features.

add to its size. The portrait photographer would not minimize such a mouth but might, instead, accentuate it. Thus, the subject's face becomes withdrawn from an approach to the normal

because the photographer or make-up man believes that the picture is more appealing when a certain good feature is exaggerated almost to the point of caricature.

If you have taken portraits that are vaguely unpleasing, it is a good idea to take parts of the negative feature by feature, and blow them up. A nose which in a general portrait looked allright, may show up as a pretty bum piece of anatomy when standing alone.

In your study of the eyes, you may find that the wide variance of light on the two eyes threw them almost entirely out of relation to each other. Not apparent in the overall photograph, this would be strikingly apparent in a blow-up.

A study of individual features also will help the photographer who is being fooled by the make-up of a female subject.

Extreme closeups may be made by enlarging a portion of a negative. It is preferable, however, to use a copying accessory. This may be a portrait attachment or a lens extension tube, depending on which accessory is available for your camera.

On the practical side, the study of individual features is primarily practice in camera observation. On the fun side, it is a voyage of discovery, with almost all the interest of exploration. You and your friends may discover things about their individual features which are totally unfamiliar to them. The camera lets the secret out. And sometimes it's a weird or amusing secret.

● DAWN OVER FIFTH AVENUE. Eye of hat manikin with strip of cardboard in front of it. Ten seconds at f/64. The effect of clouds at the top was gained by casting the shadow of the edge of a bath sponge on the head. All in all, the effect hovers between the real and the faked. It is too faked to be real, and yet too real to seem faked.





- The 13 blocks. This is how they would be photographed by a member of the pictorial school. He would arrange the blocks to form a pictorial curve and darken the corners for emphasis. Note the cross lighting for texture, the delicate shades of tone, and the use of the paper negative process for retouching.

## PROPHETS AND DISCIPLES

How would you photograph 13 wooden blocks? Here's how some of our leading photographers and the exponents of various schools of thought, would do it.

*By Chester W. Wheeler*

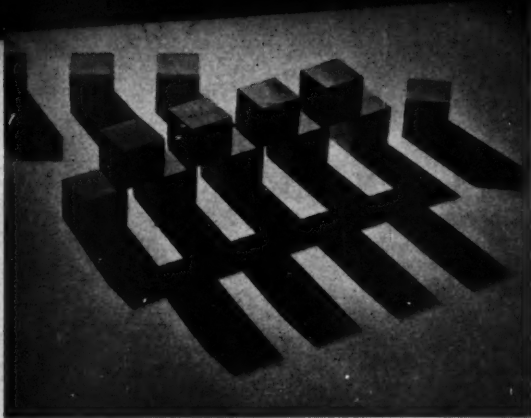
PHOTOGRAPHS BY THE AUTHOR

**F**OR even the simplest subject, the rich medium of photography can offer as many interpretations as there are photographers. As a result, since the beginning of photography, trends and schools have waxed and waned. They have been spurred on by new technical developments and influenced by outstanding individuals and new techniques. Old proc-

esses have been kept alive by the old-timers, who won't change, and have been revived by new workers who think they have discovered something new.

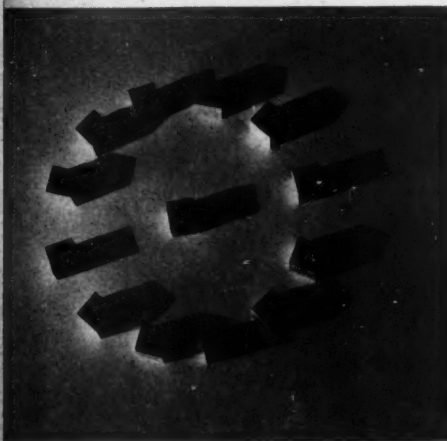
Everyone, in his own way, is a perfectionist looking for the one best method of expression. A strong-willed person with a perfect command of his medium will go ahead and let the chips fall where they may. He runs the risk, however, of becoming categorized and having his work put in one class, to stay there forever.

Mac Minifan, the average man, can-

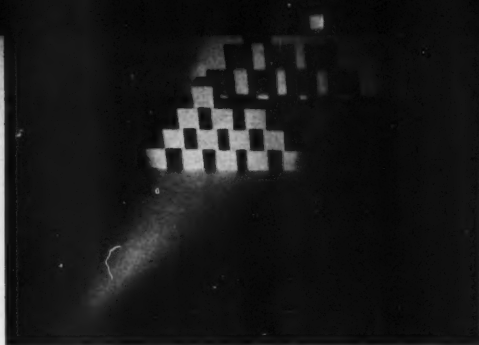
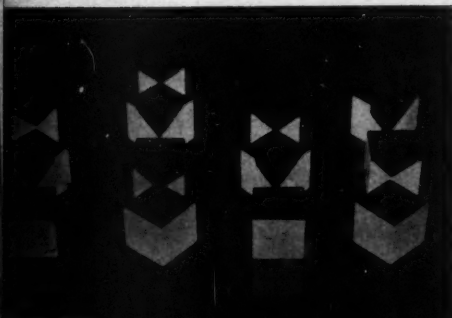


- How Margaret Bourke-White would do it (above). Strong blacks and brilliant whites. Suggestion of factory stacks. Repetition motif. Industrial, emotional point of view.

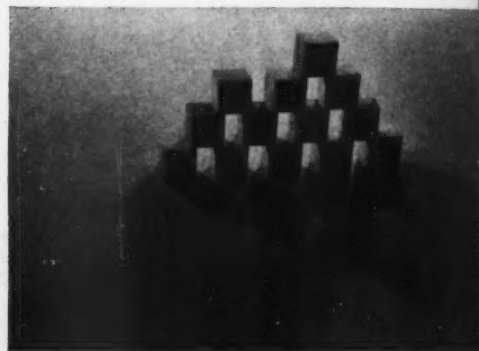
- F64 school (below). Camera stopped down to smallest possible opening and long exposure given to obtain the utmost definition and detail. Even the texture of the background is perceptible. It is worth noting that some of the detail of the original photograph has been lost in the engraving and printing process. This is a factor that always must be contended with and the brightly-lighted surfaces of the blocks do not show as much detail as a dyed in the wool "f64" disciple would insist upon.



- Futuristic. Here the blocks have been used to create an abstract pattern.

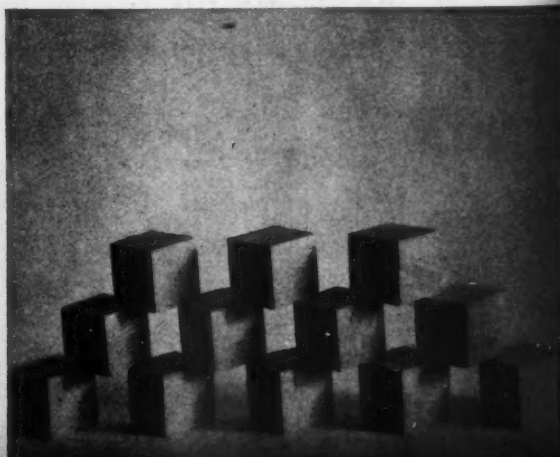


- Advertising. Members of this dramatic-impact school use spotlights, strong shadows and a brilliant center of interest in an attempt to convey two things, (1) punch (2) an obvious message.



- Steichen (above). A dramatic pattern picture with good photographic quality. Note the attention to details, the careful lighting of the shadows and the asymmetrical framing.

- Mortensen (below). Here the cubes have, by their lighting, taken on the roundness of circles. The composition is dynamic, the stationary subject giving an impression of movement. The texture is not in the negative, but added in the printing process, by the use of a texture screen.



not fail to be influenced by friends. He is tossed about on the horns of a many-horned dilemma and probably won't come to rest until he is permanently impaled on one of them. In the meantime, he has had a rough, but exciting, ride. He hasn't had much help from his friends because they have either boosted their own systems or are in the same boat that he is; and to add to the confusion, no one master photographer has come forth with a clear exposition of the principles of the various schools, or the reasons, if any, behind the trends. Each one preaches his own methods and his own style and usually ignores the existence of others.

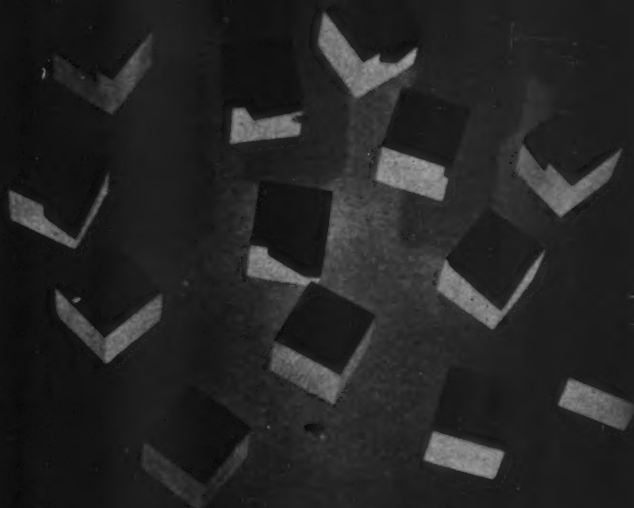
The writer has been, and in fact is now, in the process of trying to decide which way to go. He has always liked straight photography, direct prints from

original negatives, with a minimum of any kind of hand work, and for subject matter the beauties of nature; but recent salons, annuals and photographic publications feature other things. Pictures seem to be picked primarily for their stopping power or drama, regardless of beauty, the basic rules of composition or technique. Perhaps this is as it should be and the measure of a picture is its initial impact.

The accompanying illustrations were made to exemplify the manners and meanings of some of the various schools and recent trends.

The subject matter consisted of thirteen white pine blocks on a background of white mounting board or glass. Blocks and plain background were chosen because of their abstract meaning and possibilities of arrangement.

- Candid. Most violent of all is the dispute raging around this school. Disciples say, "(1) Take subjects unawares, (2) let chance arrange the composition." To opponents, "candid" is a horrid word. The blocks, in a haphazard arrangement, were photographed from under a table. The black speck is a fly. Negative underexposed and overdeveloped.



# TEXTURE TRIUMPHS OVER GRAIN

It's easy to avoid grain and easier to add it. Read (1) how to circumvent grain, (2) how to utilize it, and (3) how to make your own texture screens



By  
*Morris Germain*  
A. R. P. S.

PHOTOGRAPHS BY  
THE AUTHOR

WHILE minicam users lose sleep trying to think up ways to outsmart grain, smart fellows are noting that sometimes it's a good idea deliberately to add grain.

Methods to circumvent grain include (1) diffusion, and (2) soft focus printing. Suppose you have a composition of salon merit and wish to make a 16 x 20 inch enlargement from a grainy 35 mm. negative. To circumvent coarse grain, use soft or normal grades of paper, not hard. Use partially exhausted or diluted developer. Increase enlarger diffusion by inserting an extra sheet of ground or flashed opal glass over the permanent diffuser or condenser. Then, for the final grain-killing step, *add a judicious amount of soft focus in printing.* A home-

● The tapestry texture of a burlap scene is especially effective for closeups and large head portraits.



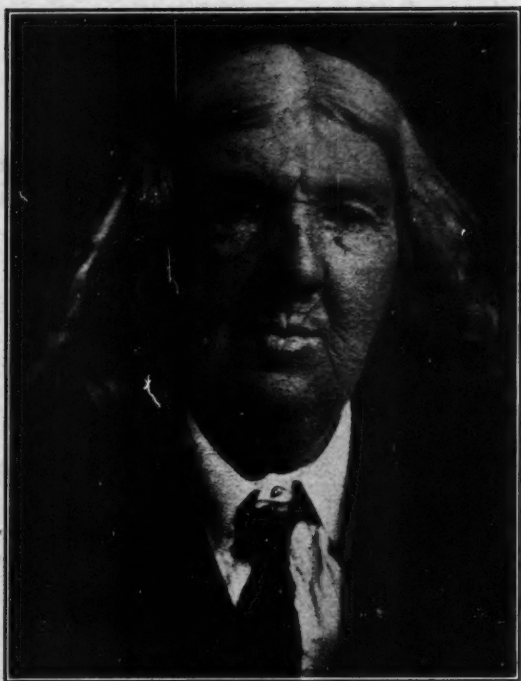
made diffuser will work wonders.

Stretch taut on an embroidery hoop a piece of dark colored chiffon; a portion of a lady's sheer stocking will do nicely. With this simple gadget wonders can be done. Focus the image sharply on the paper, make part of the exposure in the usual way and the balance of the exposure with the stretched chiffon interposed between lens and paper. The homemade diffuser is held an inch or two under the lens and is kept moving with a rhythmic motion. The combined total exposure, part with and part without the diffuser, will give a pleasing effect and camouflage grain. If you calculate the right combination of exposure with and without the diffuser, you will strike a region in print quality where grain is eliminated just at a point below showing excessive softness of focus.

Certain types of photographs are enriched artistically when printed in soft focus. To accomplish this you allow



- "Paper Grain" screen (top). This effect is attained without using an external screen. It is produced by printing through the back of the paper. This is made like a normal print except that the paper's exposure time is increased.
- "Monks Cloth" screen (bottom). This texture is suitable for pictorial scenes as well as portraits.



● "Titian Rasher" oil painting screen effect. The rough texture of this screen harmonizes well with the rugged, seamed face of the subject.

● Six popular screen patterns (below).

A is the Titian Rasher for an oil painting effect.

B is the Haile etching effect.

C is the Haile bromoil effect.

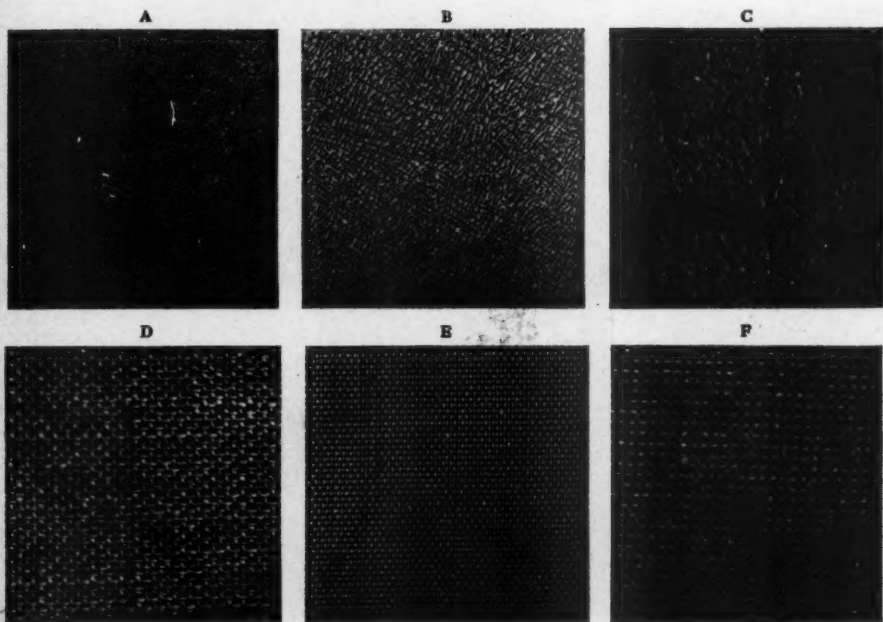
A, B and C are fabricated screens procurable at photo stock houses.

D, E and F are home made screens made by the photographic process described in the text.

D is a burlap screen, a piece of dark green, maroon or dark red burlap.

E is the wire cloth screen. It can be used as is, by placing it in close contact over the paper while printing. A film screen can be made from it by printing it in contact with a piece of process film.

F is a monks cloth screen made from buff-colored, black or dark-brown monks cloth.





#### STORMY WEATHER

● Landscapes and seascapes also lend themselves to the use of printing screens. To obtain the oil-painting effect, a texture screen was placed directly over the paper while the exposure was being made in enlarging.

By Karl A. Barleben, Jr.

a relatively short exposure as usual and make most of the exposure through the chiffon.

For extreme soft focus effects the entire exposure is made through the chiffon.

Diffusion and soft focus effects can successfully conceal grain. But grain can be utilized to good advantage by making it part of the print. By adding texture other than the negative or paper possess, we can do much towards improving the quality of the print. A texture screen in printing can eliminate coarse grain and add a distinctive character to the surface of the print. The screen is simply laid on the paper while making the exposure.

Texture screens can be purchased at a photo supply house or made at home. Three popular styles available give an (1) oil painting, (2) etching, and (3) bromoil effect.

For personal preference, screens can be made by the individual photographer for his own use. Whether purchased or home-

made, a screen must be on photographic film and of the same size as the prints to be made. The screen is placed in contact over the paper while the exposure is being made, (emulsion side of the screen against the emulsion side of the paper). A heavy piece of plate glass somewhat larger than the screen is placed over the screen and paper to insure contact. Perfect contact between the screen and paper is essential for perfect results.

To make your own screens, appropriate textured surfaces are selected, such as monks cloth, burlap, prepared canvases as used for oil painting, etc. Make a photographic negative of the selected texture on a contrast or process film. From this negative when dry, make a positive by contact printing, also on a contrast emulsion. This final positive must be brilliant, contrasty and not too dense. The minute transparent areas must be brilliantly clear and offer no impediment to light transmis-

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● A photographic "find" may be right in your back yard. Make that common, everyday scene grow into an interesting print. The three photographs on these pages all were made from the same window. In the night scene, note the eerie sensation furnished by the opacity of the blacks and whites. This lack of detail permits imagination to conjure up vision of romances or murders—as you will—on those roofs and windows. In Fig. 2, the stark realism of the tenements strikes home in contrast with the curtained calm of Fig. 3.

Fig. 1

Fig. 2



# HOW *Does Your Picture Grow?*

The "retake" is a respected Hollywood device that helps to get cinema perfection. Utilize every possible interpretation of familiar daily scenes, *retake* the most likely ones and watch them evolve into effective pictures.

By JACOB DESCHIN

*Photographs by the Author*

THE photographic possibilities of any subject are as varied as the number of photographers attempting it and the imaginative range of the individual photographer. You pass a scene, inspect it from every angle, and see nothing pictorially noteworthy in it. Someone else comes along and shoots a negative that results in a fine print.

How did he see a picture where you saw none? What went on in his mind? What decided a picture was there? How did he find the proper way to treat the subject?

The ability to "see" a picture is not the gift of the few. More increasingly it is becoming the blessing of the many—of those who are willing to use their eye and to learn from those who have "arrived."

First consideration determining whether a picture exists is that of interest, or subject-matter. If a subject is totally lacking in interest for you, there is no picture in it *for you*.

The word "interest" as used here, refers to the pictorial meaning of the word, not the commercial, of course, and therein

lies a quite obvious difference. Some say there is interest-in-everything. They point to Valentino Sarra and his "old shoes" picture that got into a salon. Someone said to Sarra that surely there must be some things that will not lend themselves to pictorial representation. Whereupon, Sarra took an old pair of shoes, lighted and arranged them in his own unmistakably masterful manner, and made a picture that everyone admired. The point is, if it interests you—even an old pair of shoes may acquire pictorial merit.

Next, does the subject have meaning? That is, can you arrange and light the subject until it acquires meaning through the manner of your presentation? Mean-

● Made from the same window as the photographs on the previous page.  
CURTAINED CALM

Fig. 3







# LOGS FROM GUATEMALA

- The all-inclusive, representation. The "cargo from afar" is shown, as well as the freighter which brought it, part of the pier, a barge (No. 19) and distant warehouse walls.

Fig. 4

ing may be injected into a picture through literal representation and by suggestion. Here again, it is chiefly a matter of much practice, much seeing.

When looking at your subject, visualize it as a photographic print. When you see a photograph that stirs you, try to imagine how the subject matter looked originally. When you point your camera, aim for as many different interpretations as possible.

Does the subject possess beauty? Does the subject lend itself to good composition? What is the most suitable lighting? These and other considerations are among those upon which you will base your decision and you alone must do the thinking and feeling.

The other questions involved in making picture decisions will be answered in the discussion of the illustrations which indicate various methods by which the individual photographer may develop a picture idea. In Figs. 1, 2, and 3 we have the contrasting effects of the same scene photographed by day and by night. Figs. 4 to 7 provide a variety of viewpoints for interpreting the same subject-matter.

The choice of outdoor subject-matter at night is dictated almost entirely by the presence of artificial light serving as illuminant either outside the picture area or

included within it, as in the case of Fig. 1. During the day, because the light comes from the sky and illuminates all evenly except where clouds intervene to cover part of the landscape in shadow or jutting buildings or other obstructions cause deep-cast shadows, the camera may be pointed wherever the subject-matter has pictorial appeal.

Therefore, in Fig. 2 the light being general, the arrangement or composition was the first consideration. It was necessary to wait for the moment when the clouds had drifted into a suitable position over the smokestack to be recorded, with a red filter, against a semi-dark sky. Without clouds, this scene would have lacked much of its pictorial strength. Since the picture was made from a window and because of the nature of the subject, there was not much choice as to viewpoint. Had the sky been perfectly clear, however, a striking effect might still have been gained through the use of the red filter simply to record a dark sky. The simplicity of the "stark" effect which might thus have been gained has often been attractively and strikingly illustrated in other examples in which mere line and tone have been employed to tell a plain story.

Another day-time interpretation of the

same scene is shown in Fig. 3. The charm of the "through-the-window" picture and the sense of perspective incorporated may be more to your liking than Fig. 2. Yet another interpretation would be possible with a figure looking out of the window. It would, of course, be placed in the open space and outlined in silhouette. Thus "played down" the figure would not destroy the picture's atmospheric effect.

Note the shift in viewpoint illustrated in Figs. 1 and 2. While the upper view-



Fig. 5

• Coming closer for these two views, the cameraman eliminates much of the detail shown in Fig. 4, and concentrates on the theme "Logs from Guatemala" by showing the cargo and the ship which brought it.

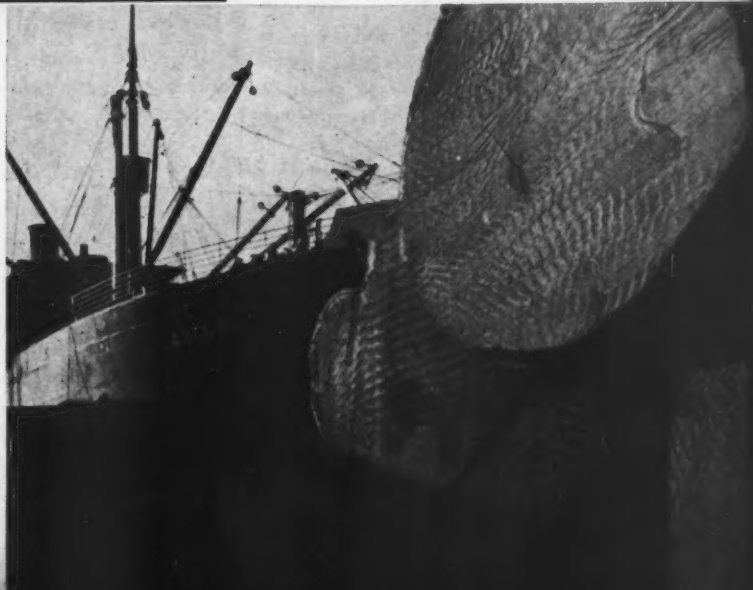


Fig. 6

point would have lacked interest during the day, at night it was found to be more effective because, as we remarked above, the locations of the lighted windows almost "dictated" the composition. The smokestack, now at the left, is darkly outlined against a night sky, and in the upper right a brightly lighted building rises. The wisp of white is smoke, which happened to be illuminated by the red light of a display sign somewhere in the vicinity. I was about to say that without this cluster of highlights, the picture would be incomplete, but place your hand over this section, that is, cover with your hand or a card that part of the picture that includes this building and the few highlights below. The result is somewhat more sombre, but still effective.

Between the visual inspection of a subject and its final recording in a print lies such a difficult and variable transition that only the most highly skilled can actually know when looking at a scene exactly the way it will look in the print.

Variation in viewpoint, as illustrated in Figs. 4 to 7, is one of the principal methods in the worker's search for that "right" picture to tell a story. Fig. 4 provides the general theme. The clouds help, the shadows of the ship's derricks on the dock walls add their effective



● Getting closer to the subject may help concentrate its effectiveness, but after a certain point, an entirely new composition appears in the view finder. Although not what the photographer was aiming at, the above is an interesting study enhanced by the diagonal of the sun's light and the texture of the hardwood logs. Fig. 7.

bit. Everything is included—a freight boat, the docks and the cargo of lumber from Guatemala. Well, there's no doubt about it. The story is complete enough. Still, we are not satisfied that we have made the most of our material.

We move closer for Fig. 5 and tackle it from a new angle. The boat is always included because without it we have merely a pile of lumber. The essential story is that this lumber is cargo that has been brought in from afar. There are no warehouse walls now and we have selected only a few logs instead of the entire load. Still the story is obvious, and the presentation is vastly improved by suggesting as well as representing the story.

Comparing Fig. 5 with Fig. 4, we have substantially the same elements. The intimacy of the closer viewpoint, however, not only tells the same story just as clearly but does so more effectively. Therefore, since nothing is gained in the previous composition through mere *inclusiveness*, it would seem there can be no objection to

the opinion that Fig. 5 presents the subject more effectively than the previous shot.

In Figs. 6 and 7 we follow this tack a little further and “play up” the logs to the limit, always maintaining the same essential story that we started out with in Fig. 4.

Fig. 7 is not so much an interpretation of the story as a representation of part of it, a study in texture. Therefore, the choice, for the best single shot, comes down to either Fig 5 or 6.

The next time you make a photograph, tackle it in the way above described. First get a definite idea of the subject you are presenting, of the story you want to tell. Then watch it evolve from a conglomeration of details to an effective composition.

Plant an idea in your mind, nourish it from every possible viewpoint, move up closer—but not too close—and then *watch your picture grow*.

# Nature PATTERNS

*Mother nature, anticipating camera-minded visitors,  
displays vegetation in pleasing and effective designs.*

By H. W. WAGNER

*Photographs by the Author*

FOR months, the spider plant hung in our dining room, little dreaming it was destined to become a salon subject and, eventually, Fig. 1 for this article.

As a baby, the plant was hung in a vase from a hook in the wall. Its growth, contrary to most laws of nature, was downward.

Every evening, over the dinner table, I eyed the innocent leaves, estimating their growth, like an oriental potentate appraising an immature bride and each time saying, "Not yet."

One day I let my soup cool to inspect at closer range certain novel curves and tones. Dinner soon was forgotten.

I went for my camera, deciding at once upon distinctive lighting and a simple background.

For these I used a green window shade and a single photoflood hung to the right of the swinging plant.

Prominent pictorial features observed in this spider plant were the three tufts, curve of the leaves, and translucent character of the leaves. Photographic considerations were background, angle of view, balance and lighting. Angle was obtained by rotating the vase to the desired position; it hung from a hook projecting from the wall. The light curtain at the left was adjusted for the balancing element.

Most of the light was from a single small photoflood bulb in a reflector about four feet to the right and rear of the plant. A mask, with a cutout hole, over

the front of the reflector, darkened the ends of the light curtain. Ceiling lights were left on and probably reduced harshness of lighting to a slight extent. High lights from the leaves are by diffusion through the pale translucent center bands, also from direct surface reflection. The lamp was placed for side and back lighting to enhance the translucence. Lighting relative to background tone was adjusted so that certain edge tones of the leaves blend into the background, creating a lost and found effect.

No filter was used. A yellow, green or red filter is recommended when one color, otherwise, would come too dark on the print. A small stop was employed to insure sufficient definition. Time of exposure was not critical: it seldom is, so long as serious underexposure is missed and if there is no movement in the subject.

"Vegetation patterns," as I like to call designs created by plant life, always are in demand for pictorial exhibits, and it is with this class of subject that I have had the most acceptances in international salons.

During summer months, nature provides unlimited opportunities. There is one danger, however. Random shooting at everything "pretty" usually yields disappointing prints. Consider each subject, before shooting, for composition, balance and simplicity. Evaluate the range of light and shade in the subject remembering that the tone scale of printing paper,



"WINDOW DECORATION"

Fig. 1

- A spider plant, lit from the side and rear, with a window shade for background to emphasize the novel curves and translucent leaves. Exposure 10 seconds at  $f/16$  on Agfa Plenachrome.

is much less than the tone range of the natural object. Before snapping, visualize the print and how it will reproduce the highlights and shadows which you see.

"Sand Dune Spires," Fig. 2, is an attempt to portray one of those fascinating arrangements found on Cape Cod. Sand dunes in general are a happy hunting





"SAND DUNE SPIRES"

Fig. 2

- A close up pattern of drooping leaves blown by the wind. The low sun rendered contour and texture. An example of effectiveness through simplicity. Exposure 1/10 at f8, Agfa Isopan, 6X yellow-red filter.

ground for pictorialists, because of the high key landscape effects. Practice and patience, however, are required to achieve pictorial composition rather than a common post card result. A low sun is almost necessary to render contour and texture. Patches of bushes and grass often make undesirable dark patches on the picture. If they are present, then is the time to look for close-up patterns. One arrangement to look for is that of grass plants whose drooping leaves, blown by the wind, have traced curves and circles in the sand.

"Sand Dune Spires" was found on a week end trip in September, when the vegetation has lost some of its dark tone and comes into closer harmony with the yellow sand. The image in the viewfinder was studied from various angles. The sun was low as may be seen by the long shad-

ows cast from the left. Its direction also brought the seed heads into prominence, with their light and contrasting shadow sides against the intermediate tone of the blue sky. So they were selected as the element of major interest. No gorgeous clouds were wanted to compete with the spires and thus kill unity. The composition was simplified further by plucking several seed heads and leaves, taking care not to leave visible tracks in the sand.

Simplification is a major problem in vegetation patterns as in other classes of composition. It is especially difficult in the woods where there is likely to be such a riot of tones, among leaves, branches, tree trunks and spotty patches of sky. Look for a striking, unified and harmonious pattern against a background of contrasting tone. This background may be water, sky

or other vegetation. A wide lens aperture will diffuse the background by keeping it out of focus.

Returning to the dunes, focus was concentrated on the "Spires" leaving foreground sand and the right hand mound out of focus. The mound, thus softened, supplies distance and balance without being too obtrusive. A light red filter was employed to darken the sky to provide a half tone background for the high lights on the seed heads. High lights cannot be pictured against a white background. A panchromatic film, of course, was necessary for exposure through the red filter. Otherwise, orthochromatic emulsions generally are sufficient for outdoor shots.

After study of enlarged proofs and after discussion with friends, a horizontal section of the vertical negative was chosen. Upper corners of the sky were darkened by dodging, when enlarging, to provide a soft gradation of tone toward the cen-

ter. The sand at the right was darkened so that it would not detract too much from the featured high lights on the spires. The lower left corner was held back to maintain some transparency in the shadows. Final printing was on ivory bromide paper to harmonize with the yellow of the subject.

"Demons Dancing," Fig. 3, is one of those patterns which pop out when we are looking for something else. Visiting in the town of Wickford, Rhode Island, late one September afternoon, some gorgeous cirrus cloud streamers appeared in the western sky. A quick drive was made to the eastern end of a pond from which view point advantage might be taken of reflections in the water. Eight exposures were made in rapid succession, some including the vegetation at the near edge of the pond. One exposure, including only a

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- The oblique lines of the pickerel weed leaves indicate animation, emphasized by the placidity of the lily pads. The gyrations of the dark figures suggested the title. Zeiss Ikonat camera, f/11 on Agfa Plenachrome, no filter.

"DEMONS DANCING"

Fig. 3



# A New Developing Method

The perfect developer will be (1) perfectly uniform; (2) economical. These qualities can be attained now by using certain well-known developers in the new way outlined below.

By EDMUND W. LOWE, Ph.D.  
(The Edwal Laboratories, Inc.)

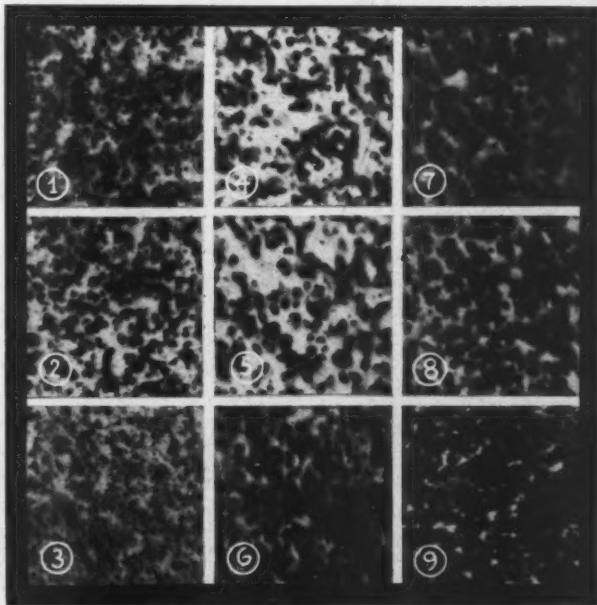
ILLUSTRATED BY THE AUTHOR

ONE of the chief problems in the creation of the "perfect developer" is uniformity. As a fine grain developing solution is used and reused, restraining agents are taken up from the film, and each succeeding roll acquires less density. With use, a developing solution also yields finer grain. This advantage, however, is offset by lack of consistency of results and the danger of ruining film in exhausted solution.

An ideal method of development would be to use a solution once and then throw it out. With present day concentrated developers, this is not only uneconomical but inefficient, for the first roll never has as fine grain as the third or fourth roll.

Developers such as Edwal 12, Edwal 20, and Champlin 15 are commonly used to develop 10 to 15 rolls per quart, whereas they actually contain enough

developing agent to process 30 to 40 rolls. A method was worked out whereby the full developing power could be used and also great uniformity obtained.



● Photomicrographs of Dupont Superior film developed in regular stock solutions and in 10 per cent dilutions.

- (1) Developed in Fresh Edwal 20, full strength. Gamma .75
- (2) Edwal-20, diluted 1 to 9. Gamma .75
- (3) Used Edwal-20, fifth roll per quart. Gamma .75
- (4) Fresh Edwal-12. Gamma .8
- (5) Edwal-12, diluted 1 to 9. Gamma .8
- (6) Used Edwal-12, fourth roll per quart. Gamma .8
- (7) Fresh Champlin 15. Gamma .6
- (8) Champlin 15, diluted 1 to 9. Gamma .6
- (9) Fresh D-76. Gamma .7



● "GROTESQUE." Negative developer Edwal-20. Print Developer Edwal 102.

The essentials of the new method are:

1. Use only freshly-mixed developer. (Edwal-12, Edwal-20, or Champlin 15.)
2. Dilute the developer with nine parts of water (e. g. dilute 50 cc Edwal-

12 with 450 cc. water). Distilled water is preferable, but any reasonably pure, non alkaline water can be used.

3. Use the diluted solution once and the throw it away.

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# HOW FLASH WORKS

*Lamp characteristics and how to synchronize them for high-speed work.*

*By Hy Schwartz*

(Technician the Kalart Co., New York)

WHEN flash powder was the only available light source for night snapshots, only the professional press photographer used it and flash powder was saved for emergencies. Preparations for its use were carried out as methodically as plans for dynamiting a hillside—and the resultant blast was as noisy and fulsome.

Nowadays, no sooner does a camera fan enjoy the use of a flashbulb, than he wants to synchronize for action shots at  $1/200$ th of a second, or faster.

In the first year of its existence the flashbulb proved extremely stubborn to synchronization. Manufacturers had not yet discovered the method of standardizing the time lag of the flash—the time necessary for the flash to reach its peak of illumination after the switch is closed.

Although the lag is measured in thousandths of a second it is the important factor when synchronizing a shutter speed of  $1/200$ th second with a flashbulb, the peak of which also may be  $1/200$ th second.

The foil-filled flash lamps made by General Electric and Westinghouse all burn for about  $1/60$ th second and reach their peak in about  $17/1000$ ths second from the time the electrical contact is made. The peak lasts for about  $1/200$ th second, and about 75% of the light output of the bulb is emitted during this peak.

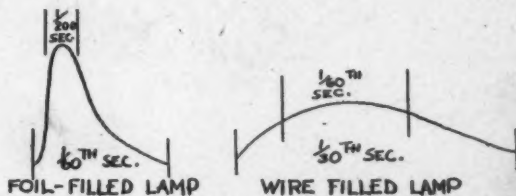
The wire-filled type of lamp made by Wabash Superflash Co. does not reach as high a peak, but burns longer. The total light output of each type of flash is about the same. The sketch below indicates graphs of two familiar lamp types.

The Superflash lamp has a time lag of about  $20/1000$ ths second and burns for about  $1/30$ th second, with a peak of about  $1/60$ th second. The long peak makes this type of lamp ideal for synchronizing with focal plane shutters of the Contax, Leica, Korelle Reflex type.

As this issue goes to press we receive the news that General Electric and Westinghouse are putting on the market a new type of lamp containing both foil and wire which, it is claimed, will burn longer than the original foil lamp and just as brightly.

It was the increasing demand for a lamp to synchronize with the miniature focal plane shutters which made it necessary to produce a long-burning flashbulb. The action of the focal plane shutter is such that the film is exposed as the curtain travels progressively across the frame; and with the all-foil lamp the flash burned out before the entire film was exposed, giving an unevenly lighted negative. Even with the longer-burning wire lamps it is necessary to shoot at  $1/200$ th second or faster in order to get evenly exposed pictures, because the focal plane shutter takes about  $1/50$ th second to cover the entire film, although the shutter speed may be  $1/200$ th second. Another problem in syn-

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• A short, intense flash is given by a foil lamp while a wire-filled lamp delivers a longer, less-intense light.



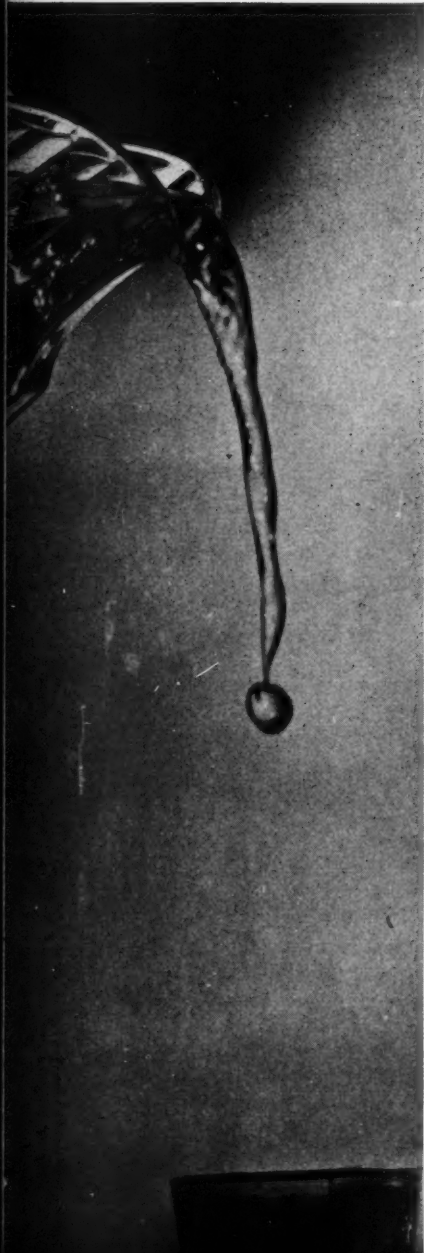
# Synchro-Flash *AT TOP SPEED*

Many a camera owner fails to utilize his camera's highest shutter speeds. Let it out—like a car on the road—and see what you can do in brilliant sunlight or with flashbulb “bottled” sunlight.

By

LANCELOT VINING, A. R. P. S.

*Photographer, London Daily Mirror*



MY first venture into the realm of top-speed shutter work came as the result of a wager. I said I could pour water from a jug into a glass and catch the water exactly midway between jug and water glass. My lucky star was certainly pulling for me when I fired the Speedgun. Take a rule and measure how far out I was and note that I used the word “lucky”. This shot was published in the *London Daily Mirror* and quickly brought a challenge to stop the flow of soda water from a syphon, but, thank goodness, no mention was made as to the distance at which the soda water was to be stopped. Other challenges quickly followed.

Your clever little dancer, June Taylor, gave me my first real acrobatic dance shot, but this negative was quickly lost, so, being a good sport, June allowed me a second “sitting”. This time I asked her to wear a lighter colored costume as on the first occasion she had worn black. I again obtained a good result. After my first shot had been published, I received a letter from a certain office, saying that the staff was divided over my work; one half thought I was very lucky, while the others thought I was good. They asked me to repeat the June Taylor picture, getting the dancer to wear a different costume, which would prove it to be a re-take. They would have been surprised to know I already had it in the bag. June was impressed and said that she had not been able to get these results in America, a statement I doubted.

My camera is a Contax II and I use chiefly the Sonnar *f*1.5 two-inch lens although I have four additional Contax lenses.

Even the *f*1.5, however, was not fast enough to catch moving subjects in limited light, so I

● Stopping water half way between pitcher and glass. Note the appearance of the head of the stream of water, in contradiction to the “tear drop” conception. Taken at 1/1250th second at *f*5.6 with one flash bulb.

sent to the United States for a flash synchronizer.

My method is simple and direct, but I have one golden rule where synchronized flashlight work is concerned: always work as close to the subject as possible. I agree it makes the timing more difficult, and it would be easier to enlarge a portion of a negative in printing. I find, however, that this latter method does not produce highest quality in the finished print.

For all flash work I use a medium speed panchromatic film; we know it in England as Agfa F, rated 27 Scheiner. When the speed is to be  $1/1250$ th I frequently use a second lamp on an extension.

I develop in Metol-Meritol for 8 minutes at  $65^{\circ}$  in a Perkino tank. After wash-



● "The hand is faster than the eye," alright, but not faster than a  $1/1250$ th second shutter. The deck of playing cards was caught in mid-air as the magician was about to push out his arm to catch them before they fell. Exposure  $1/4$  with one flash bulb 3 feet from camera.

ing, I wipe down both sides with a wet chamomis, pass through alcohol and dry

● Shot at  $1/1250$ th second as a milk jug hit the floor, the particles of broken crockery as well as the flying drops of liquid were caught in mid air. Mendelsohn Speedgun, Agfa S. S. film. One flash lamp. Contax II camera with 2-inch Sonnar lens. The jug was dropped from a height of 6 feet.





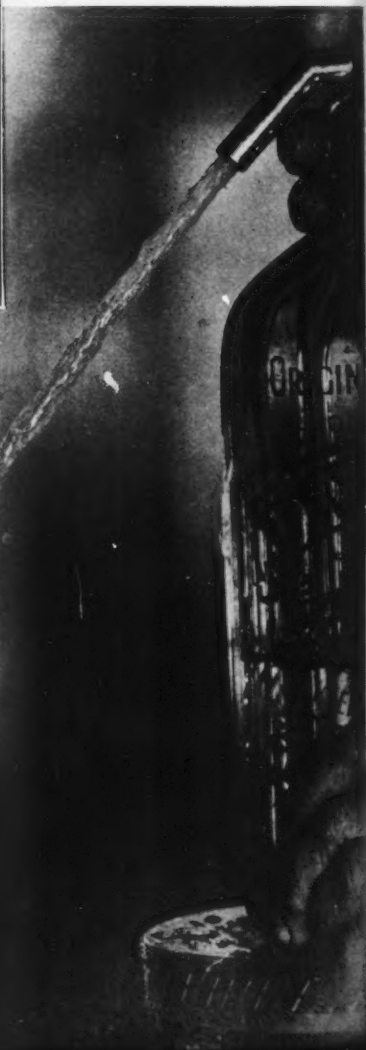
● Human subjects may be "frozen" in the midst of any action with the 1/1250th second speed. Even the middle of a somersault is easy. Two flash bulbs, one at the camera and one 10 feet to the left. Taken at 15 feet.

● Even a pressure syphon cannot escape the Contax's top shutter speed. Exposure 1/5.6, taken at 3 feet, with one flash bulb. A Mendelsohn speedgun synchronized the shutter and flash.



with an electric fan. When I am rushed I can get the dried film in the enlarger in 20 minutes or a wet one in 15 minutes.

Let out your camera. Make use of its maximum speed and you will find an entirely new field and subject matter opened. It is by no means necessary to use synchronized flash at all times, as brilliant sunlight will give you enough light for many of these top-speed shots.



# OPPORTUNITIES *in the Advertising Agency*

By John A. H. Rehm

(Paris & Peart Advertising Agency)

Highest rates for photographs often come from advertising agencies. Answered here is the question, "How can amateurs sell to agencies?"

SINCE becoming a camera fan, I have studied many amateur prints with a technical eye to their possibilities for advertising illustrations. In salons, I have seen many prints superior to costly professional assignments. I am convinced that the serious camera hobbyist has a vast opportunity open to him. There is a place for him in the everyday functions of an advertising agency.

Advertising agencies produce the advertisements you see in newspapers and magazines. Most of these advertisements are illustrated, and with photographs. How do these photographs originate?

The advertising agency's job is to sell goods by means of words and pictures.

Slogans and similies often are called upon, such as "Smooth as a baby's behind," "Life begins at 40," etc. Then it is the agency's job to find photographs to fit the slogans or invent new catch phrases to go with available photographs. How this is



● The sketch (above) represents an art director's instructions to a photographer. He makes notes as to the ages of the children, attire to be worn, etc. The photographer plans his shot, keeping in mind the specific story situation his work must illustrate.



● The photograph (left) shows the photographer's interpretation of his instructions. Note how closely the photograph adheres to the sketch.



● Photographs like the above are salable for use in advertising. Unusual animal subjects, like "Cat feeding puppies" (top) find a ready market. Photographs by Earl S. Rhine, N. Y., amateur photographer.

done was described in the article "Ideas, Illustrated" in MINICAM for March.

Art, in the form of pen and ink work, wash drawings, color illustrations, black and white and Dufay or Kodachrome photography, is in constant demand by all agencies. And the latter two mediums, black and white and color photography, are fast carrying the field because of their authentic and realistic qualities. To verify this, take a few minutes to thumb through one or two issues of current magazines, Good Housekeeping or The Saturday Evening Post, for example.

There is an easy way for serious and skilled candid camera technicians to find a profitable place in the advertising agency scheme. Here are illustrations in point:

Every agency of any importance has its art director, an artist vested with the responsibility of expressing pictorially the merits, situations, et al, of an advertiser's product or service. His first step in the production of any advertisement is to create picture situations and design the advertisement in its physical entirety. To do this, he roughly sketches layouts until he arrives at one that holds the best promise of becoming an effective announcement. Following this, he must supply a semi-finish of the advertisement to show to the advertiser for approval.





convey, and then set to work. The candid camera craftsman can pose models, in interior or exterior scenes, and arrange dramatic effects, and shoot from ten to twenty angle exposures. The best of these can be submitted to the agency art director for examination under an enlarging glass or pantograph. And the few most suitable prints can be enlarged for delivery to the art director for use in completing the semi-finished adver-

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● Children using commercial products are likely subjects for saleable illustrations. This sequence was made for a watch manufacturer by William H. Lathrop.

This calls for careful drawing and, in many instances, requires a fair expenditure for art talent enlisted from a studio or the ranks of free lance artists. It is at this stage of the game that one opportunity arises for the

candid camera craftsman. If he has been sufficiently business-like to gain entree to the agency's art department, and if he has established an interest in his work through a portfolio or album exhibit of enlarged prints, he can take part in preparing the semi-finished advertisement for the agency's client.

He can secure the art department's lay-out, or a photostatic copy of it, take notes as to the type of picture required, the impression it is to finally



# MAMMALS as MODELS



● A raccoon photographed in its natural home—a hollow tree. These animals are difficult subjects, being always in movement. A shutter speed of 1/50th or faster must be used.

**H**UNTING, for big game or small, I'd rather bring home a negative than a carcass. Both sports require, among other things, a goodly supply of patience and perseverance. More than once it may be necessary to freeze like a pointer.

Once, after a long wait, I saw bighorn approach a salt bait 12 feet from my camera. A click of the shutter—one negative—and the flock scampered away for the rest of the day. Photographing mam-

"Let's go hunting," these days, means loading up more often with nitrate film than nitrate shells. "There's sport in shooting" camera-shy small game.

By LLOYD G. INGLES, Ph.D.  
(Member Am. Soc. of Zoology)

mals is never easy, even when conditions appear to be ideal.

The nature photographer, more than anyone else, takes photographic conditions as he finds them. Unlike the news reporter with his bag of accessories for unusual conditions, the naturalist must travel light, with all equipment reduced to a minimum and yet be prepared for anything. Besides photographic equipment, a goodly supply of patience and perseverance is needed at the outset.

There are so many good cameras on the market these days that no one can say which one is the best for nature pictures. I have been asked this question many times and always reply by asking: What kind of a camera would you select to wade waist-deep into a beaver pond? What kind of a camera would you choose to go after a mountain goat on a wind-swept crag where you need hands as well as feet for climbing? What kind of a camera to carry to the top of a swaying tree after a rare bird?

Become acquainted with the problems you will face and select camera equipment accordingly. The photographs shown here were taken with a Rolleiflex.

Every mammal is found in his typical environment and should be photographed, if possible, under conditions depicting its home. Skunks, for instance, are seen around lowlands or woods. They are often observed in the daytime, though like many mammals they are primarily nocturnal. These night-roving mammals are, however, usually about in the late afternoon

or early morning and many excellent opportunities await the cameraman who goes forth at that time.

I think the skunk and the porcupine make good subjects with which to begin mammal photography. Neither is timid and often will stop to hold its ground when closely pressed. This makes them easy to photograph, because they do not have to be enticed to come to baits which is often a very long tedious procedure. Skunks especially are contrasty in almost any background, and the problem of "posing" is simple compared to picturing a camouflaged nighthawk setting on its nest, or a great host of other animals that are protectively marked or colored to match their environments. Many times I have surprised a skunk during early morning or late afternoon hikes and have often approached as close as three or four feet while the animal was all set to release its scent, but I have never yet been "sprayed." The explanation is that a skunk will not throw its scent if approached carefully and quietly.

Easy as it may be to snap the shutter on a skunk that has been successfully brought to bay, it is not so easy to get such a contrasty animal properly registered on the film so that the deep black and the pure white will show detail. The exposure must be just right, and may I say here that an exposure meter comes in very handy if one is pursuing any branch of nature photography. Perhaps some would think that in such close proximity to a skunk there would be no time to measure the light, but if a good negative is desired that is the surest way to obtain it. The time of day when the animals are active and most likely to be photographed usually brings with it weak light and to cope with this the camera hunter must have a fast lens, fast film and be prepared to work

• The porcupine has little fear of man and is easily approached. He cannot throw his quills but is dangerous to approach too closely.



• Close-ups of the opossum must be taken at 1/50th second to stop the "flinch" reflex.





● Young opossums clinging to their mother's fur.

rapidly at all times.

Porcupines are most often found in the pine, fir and juniper woods. Like the skunk they are highly protected and have little fear of man especially when cornered. They can be approached closely without danger, for contrary to popular opinion they cannot throw their quills. They can, however, swish their quill-laden rump and tail about very rapidly so one should never attempt to get closer than three or four feet or be so foolish as to try to pet one. If possible the porky will take to a tree and if the tree is not a large one this is an advantage, because the photographer can often follow the animal along on a nearby branch and practically select the desired pose. When disturbed on the ground these animals have a way of rolling up into a ball by placing the head beneath the belly making a satisfactory picture impossible. Another advantage in climbing the tree after the picture is that the animal may be taken in his natural feeding environment. These animals move slowly as a rule and

a half dozen shots may be made easily as one walks along a limb to safety.

The opossum is generally a woods dweller but is occasionally seen wandering quite a distance from trees. When approached too closely and especially when roughly handled it feigns death so perfectly that more than once I have left it for dead only to return and find it gone. Like the porcupine, the opossum will take to a tree if one is handy, and though it feeds largely on the ground it spends considerable of its life among the branches. These animals are exceedingly stupid and very nervous.

On one occasion I tried to photograph an opossum in a tree and after a few shots had been made I became aware that each time the shutter clicked the animal jerked its head very quickly. Since the camera was set for 1-25 of a second, I feared I was not stopping the movement. The diaphragm was then opened to allow 1-50 second, and more exposures were made. When the films were developed the vibrissae and features

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# TIPS FOR THE TIMID

## *and the adventurous candidman*

By Kenneth M. Swezey

CAMERAS not allowed! The increasingly inquisitive candid camera in the hands of news photographers has brought new restrictions to the use of modern instruments.

On the other hand, the miniatures are

so easily concealed that it is very difficult to prevent their intrusion. In these pictures, we see some of the smuggling stunts that have been used by intrepid lens-hawks.

Candid camera shooting, that most dangerous and fascinating of minicam pastimes, is not alone for the brave and the brazen. With a little delicate strategy, augmented on occasion by a few gadgets, the shyest and most harmless fan may delight his heart snapping pictures as pleasantly or as painfully 'spontaneous' as his temperament dictates.

Candid shooting may be accomplished by the use of accessories or merely by devices to conceal the camera. In the latter case, the normal viewfinder cannot be used and there-



● SHOOT AT RIGHT ANGLES (above)

An angle viewfinder, obtainable for the Leica, Contax and other cameras, permits perpetration of a neat psychological trick upon those not yet camera-wise. This gadget permits the lensman to look ahead while focusing on a subject at his side.



● SHOOT FROM THE HIP (right)

A "brilliant" or reflecting viewfinder, like the one on the earliest box cameras, permits the cameraman to shoot at right angles to the direction in which he is facing. The above two devices not only permit the lenshawk to distract the attention of his subject, but also provides him with an accurate view of the field in the camera.



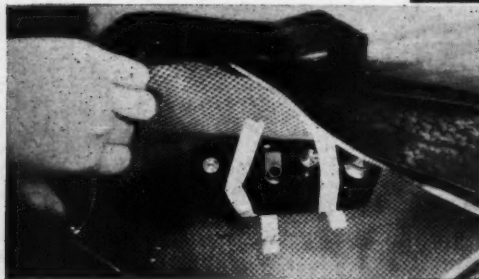


● LASH THE CAMERA TO ONE OF  
"SHANKS PONIES"

This (left) is the method used to photograph scenes by the employment of a long cord or cable leading to the pants pocket. This trick was used by a new photographer in obtaining a picture of the electrocution of Ruth Snyder at Sing Sing prison.

● CAMERA "TALKS" THROUGH  
YOUR HAT

A New York newspaper photographer recently obtained a forbidden picture by cutting a hole through an old hat and using the hat to conceal his camera. The hole was cut through that part of the hat covered by the band so that the lens of the camera would be less conspicuous.

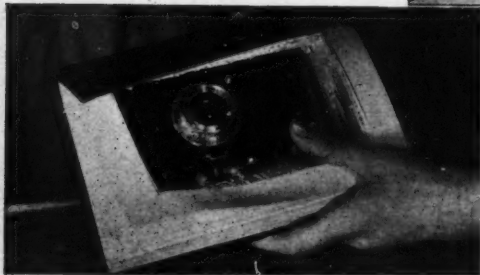


● ANCHOR THE CAMERA WITH  
ADHESIVE TAPE

When carried about in Boston bags or other containers of this sort, the photographer will find that his camera may be very conveniently held in the proper position by the use of a few strips of adhesive tape. Such tape does not injure the camera in any way. If some of the sticky substance is left on the camera after its removal, it may be eliminated with alcohol.

● SOMETHING UP THE SLEEVE

So small are many miniature cameras that they may be carried in a sleeve. A few strong, heavy rubber bands or adhesive tape is all that is needed to hold the instrument in place. Pictures may be taken without removing the camera if necessary.



● DEVOTE A BOOK TO PHOTOGRAPHY

Here the news photographer has cut out the center of the pages in a book and into the cavity placed the instrument. Thus he disguises himself as a student to reach forbidden spots where important pictures may be had.



#### ● HIDE, IN A BOSTON BAG

Many things, from diapers to books, are carried about in Boston bags and these bags have become so commonplace that they do not excite suspicion. Hence, they may be employed to convey cameras so arranged that pictures may be obtained without removing the camera from the bag. This is done by cutting a hole in the bag as shown on the previous page and carrying the shutter release cable in the hand as above.

#### ● USE A NEWSPAPER FRONT

Here the intrepid lensman wraps his camera in a newspaper through which a hole has been cut to accommodate the lens. A smaller hole permits the shutter cable to be used without removing the disguise.



#### ● USE A FIELD GLASS CASE

Field glasses are often permitted where cameras are taboo. Such tricks work well in zoos, races, military reservations, etc., where cameras are not allowed.

#### ● SHOOT THROUGH A HOLE

Many forbidden "shots" have been taken by newspaper "readers" in the manner here illustrated. The trick is done by cutting or tearing a small opening in the newspaper through which the lens of the camera is placed. The candid camera is difficult to defeat because of its small size and weight.



fore practice is needed in estimating the field of view taken in by the camera.

A telephoto lens makes many shots possible merely by allowing the camera to be held at a distance great enough from the subject to catch him unawares.

Many candid shots are obtained by the mere expedient of pretending to ignore the subject. Face in another direction,

pretend to be adjusting the camera or to be studying another object. With camera properly adjusted for focus and exposure, suddenly turn, hold still, snap the shutter and turn away again.

The devices for concealment, as illustrated here, are in common use by newsmen. Like the Northwest Mounted, the lenshawk, "Gets his man."





# LENSWORK ABROAD

*By Betty Taylor*

WHAT with international salons, magazines and photography publications circulating internationally, it is natural to expect a similarity of camera work throughout the world.

That this is not the case is apparent at a glance through a book of photographs like the "Photography Year Book 1938."\* It includes work by United States cameramen as well as those abroad, but the inspirational value of the work is in the new and different treatments presented.

The reader often finds himself stopped before a picture, muttering, "Wonder why I never tried that," or else, "To think of that angle, would take a Frenchman"—or Englishman, etc.

In the same way, perhaps, Hungarian, Hawaiian and Belgian photographers look to U. S. prints for novelty, inspiration and stimulation.

The photographer today tends to seek

unusual, striking or dramatic compositions.

There are excellent prints whose effect is gained by softness of focus or by diffusion in printing. There are low key and high key prints. But the greatest proportion are sharp, full scale prints, utilizing the full range of paper tone from light to black.

Dramatic-detail presentation is still photography's approach to the movies' big-head closeup. A reproduction of a man's hand may describe him better than a full figure.

In the print, on the page to the left (Photo Geiger), note the brilliant white highlights and the rich, full blacks.

In the closeup on the top of this page, the lighting is less contrasty and there is less sharpness and detail. Less dramatic, less striking than the first print, its success is in its combination of delicate tones and lines. Every line is a curve.

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\* Cosmopolitan Press, publishers, 48 Fetter Lane, London, England.

# Being Critical

*Discussing prints—for better or for worse—  
and how to improve them.*



● "SONNY," 1/50th second at f/16, Verichrome film.

"SONNY" is the sort of shot that is the direct result of not paying enough attention to details before touching the shutter release. In the first place, making portraits in the direct, bright sunlight almost always leads to two things that do the result no good; the victim

has to squint and the shadows always become so dense that what little of his eyes remains uncovered is lost in blackness. Try making snapshots in the shade. They will be much more nearly what we want them to be.

Next is the question of background. We have a straight line between the dark background and the light field that cuts almost through the youngster's head. In the picture it looks worse than it did on the scene as the comparative color-blindness of the film exaggerates the difference between the dark green of the trees and the brightness of the daisies. A lower viewpoint could have put the image of the child against the dark trees. A higher viewpoint would have made the flowers the background. Either would have been better.

Then comes focusing. In this case the camera was focused too far away. Sonny is standing right on the front edge of the sharp part of the picture when he should have been in the middle of it or on the back edge so that the foreground would have been less annoying.

Sonny is an attractive boy, but his photographer could easily have done better by him.

"CENTRAL AMERICAN SCENE," we hope, will retain the richness of tone and the print quality of the original. The placing of the figures and their representation almost as silhouettes gives point to the picture itself which is the play of light and shadow through the arches and against the farther brightly

lighted wall. This wall, with its arch which repeats the motif of the others, and yet by its different angle breaks the monotony of a long series of like shapes, offers an interesting variant of the usual repetition picture. The maker took pains to hold this effect by his carefully chosen viewpoint.

Cropping again is essential. The arch on the right runs out of the picture and permits a distracting white patch in the lower right corner. Cover this arch with a strip of paper and you will see the effect of this cropping. Then, the dark tone of the arch will serve to hold the picture more tightly together.

Generally speaking, most of these shots with a wall on one side and a series of repeated forms on the other should be trimmed in a dark area—in this case in the column that forms one side of the arch.

In making these shots, we should keep in mind that there are several different possibilities from the one spot. A short exposure will render no detail in the ceiling or the darker areas and thus make the bright areas more important while longer exposures give increasing emphasis to the shadows. We must decide what we want—or try it both ways.



● "CENTRAL AMERICAN SCENE," 1/10th at f/6.3. Note the added effectiveness obtained by covering the arch at the right up to and including the white line.



"THE BROOK," though totally different in idea from the Central American shot with the arches, has a certain sameness in the feeling of looking into a tunnel. The perspective comes from the unbroken "floor" of the picture that leads us right on into the distant sunlit spot. Cropping the too-out-of-focus area at the very bottom and enough of the right side to get the shot better framed by the rocks rising to meet the overhanging branch of the tree, adds depth to the picture and holds the eye in it more easily. Of course, we must leave enough at the bottom to give the picture something to stand on; otherwise we might get so interested in wondering where the photographer stood that we would forget his picture.

This has all the appearance of a thoughtful and well carried out piece of work. Many negatives were wasted, just to get just the desired effect.

"LOBSTER POTS" is well done but includes too much. It is difficult to concentrate on the main theme—the pots themselves. If we don't take care, we find ourselves wandering down the path to see where it goes. Cropping the print so as to make the dark side of the house the background concentrates the interest well by leaving nothing but the actual subject to look at. While we could wish that the viewpoint was a little more to the right, the new composition is interesting, balanced and worth while. The reader will notice that we changed our mind and cut still more off the top of the print. Usually any shot will demand a lot of thought before the best composition is evolved.

HARBOR SCENES are fascinating but difficult to handle. Too often they are admired as genre rather than as straight pictorial efforts, finding their interest too much in the novelty of their component parts instead of in their actual photographic and pictorial merit. The danger is that we may arrive at something whose whole is less than the sum of its parts, and this is as bad photographically as it is mathematically.

In this case, the detail is well handled, yet comfortably subordinated to the general masses and the composition holds together well. The whole effect is stronger with the cropping to the line at the left. This trimming moves the figure in the foreground to a more fortunate place.

The distance really has distance, and the depth of the whole picture gives us the feeling of being so "in" it that we do not mind the cut-off masts which so often have a rather amputated look.



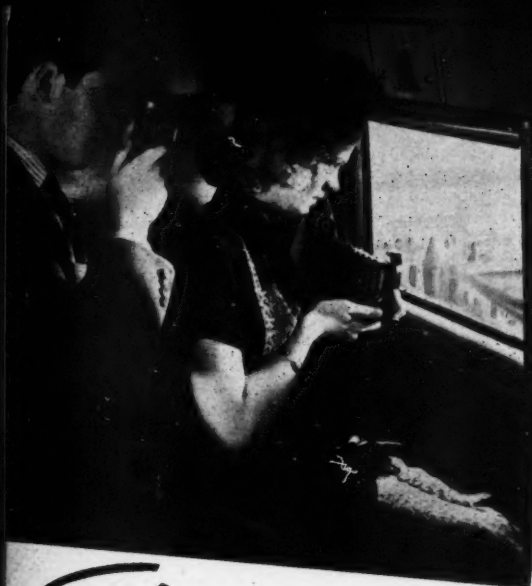
● "THE BROOK," 1/25th at f/11. A feeling of depth is obtained as the eye is led in an "S" curve from the nearest to the farthest object.



● "LOBSTER POTS" becomes an effective Cape Cod composition by judicious cropping on all four sides to eliminate extraneous matter that detracts from the central theme.



● "HARBOR SCENE," 1/100th, f/8, S. S. Pan film, dark yellow (K2) filter. The foreground figure, the sail in the distance next to the trimming line and the clouds are well handled.



*Take your camera to the airport—Dramatic subjects await you whether you go aloft or remain on the ground.*

# *Shooting the Sky Lanes*

By **HENRY CLAY GIPSON**

(Travel Photographer)

NEW photographic horizons are opening up to modern minicam men with airway travel becoming as familiar as land-bound transportation methods.

And if you are not enjoying travel by air at present, you can take your hobby to the airport — cameras there always are welcome.

Perhaps the first question when you go aloft with a camera is, "What shutter speed shall I use?"

Although you may be travelling several hundred miles per hour, your subject usually is in the plane with you or thousands of feet away. In either case, it may be captured on the negative with shutter speeds as slow as those used for stationary subjects.

Motor vibration, however, is quite another problem. In the comfortable cushions of a transport liner it is not always apparent. Nevertheless, a shutter speed not slower than 1/200th is recommended.

It is true that speeds as low as 1/20th of a second have taken successful pictures from planes but any shutter speed slower than 1/200th risks a fuzzy negative and should not be used unless lighting conditions demand it. Avoid vibration which may be transmitted to the camera through the fuselage. While shooting do not touch the window or other parts of the plane which may transmit this vibration to the camera.

To minimize reflections from behind, hold the body close behind the camera and the lens near the window. Hold the lens about an inch from the port, or as close as possible without touching the glass.

It is a good idea to use a lens shade but a lens shade will not eliminate reflections which are directly in front of the lens. The lens shade is valuable only to eliminate reflections coming from outside the lens' field of view.

Motion in a plane is caused by (1) air currents, (2) motor vibration and (3) the movement of the airplane itself; this is apparent only at low altitudes.

The first of the above listed sources of vibration is the most serious one. When weather conditions make a plane jump around like a truck on a rocky road, photographs are practically impossible.

In an open cockpit, the slipstream may make it impossible to make a sharp negative at less than 1/1000th. In cabin planes, there is relatively little vibration

Panama, was made from a plane moving 100 miles per hour at an altitude of 500 feet. A shutter speed of at least 1/1000th was called for, but the camera used had only 1/200th. The camera was swung in an arc, clicking the shutter in the middle of the swing to stop the action of the rapidly moving seascape below. Due to the brilliant tropical sun, an opening of f/16 gave an adequately timed negative. "Panning" in this way must be in the direction of the plane's movement.

Exposure from the air is fairly critical

● Squadron of Consolidated FB 2A Pursuit planes "ground strafing." Baldina camera, exposure f/5.6 at 1/500th second. See next page for table of shutter speeds for shooting planes from the ground.

● San Blas Island, (right). An under-the-wing shot from an altitude of 500 feet made at 1/200th second by "panning" the camera in direction of plane's motion. Exposure f/16 in brilliant sunlight.

and the recommended 1/200th shutter speed is adequate for perfectly sharp negatives provided you are not in contact with the fuselage or window glass.

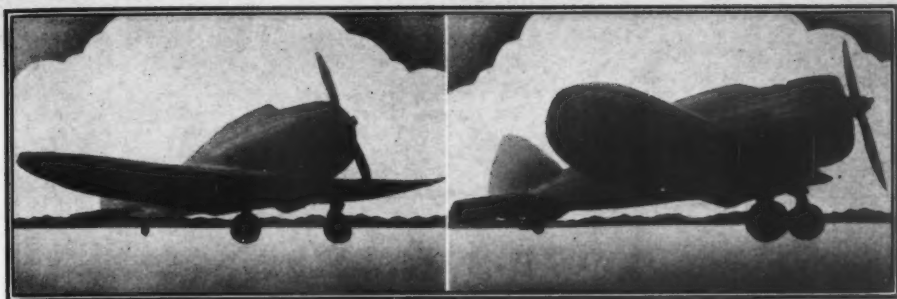
The motion of the plane itself is apparent only at low altitudes. When shooting straight down for a closeup of buildings, the motion of the plane may be counteracted by swinging the camera in an arc, maintaining the object in a fixed place in the view finder.

The San Blas Island shot illustrates what may be done, in an emergency, with a relatively slow shutter speed. This shot of one of the islands, off the coast of



25





"A"

"B"

- Sketches "A" and "B" indicate the perils of perspective when shooting a grounded plane. Fig. "A", taken from a position in front of and to the right of the plane reproduces approximately normal perspective. Fig. "B" indicates what happens when a point of view too close to the wing is taken. The size of the wing appears to be almost equal to the entire fuselage. The wing tip, which actually is quite small, appears to be the biggest part of the plane. The tail is better, however, in "B" than in "A". Because of its construction, a grounded plane abounds in material for unusual angle shots.

because the ground pattern usually contains but little contrast. An average exposure of  $f/8$  at  $1/200$ th of a second with S. S. Pan and without a filter may be accepted for most air views on a normally bright day. When a filter is used, the diaphragm is naturally opened to compensate.

On hazy days, filters become necessary. The murkier the day the darker the filter needed.

When visibility is unlimited, as often is the case in the tropics, no filter is needed, at least for distances up to half a mile. The window glass absorbs some blue and ultra violet rays. A light yellow filter may be used, however, for long shots.

When visibility is limited to ten or 15 miles, the light yellow filter may be used for close shots, up to half a mile, and the dark yellow for long shots.

- American airliner (left page) Douglas D2, taken by Edmund B. Lunken.  $f/4$ ,  $1/50$ th, light red filter. Courtesy American Airlines.

In thicker weather, the orange filter may be used. When visibility drops to a mile or so, the red filter is the necessary haze-cutter. The red filter, if you are over the ocean, will darken the tone of the water as well as the sky. At high altitudes, however, bodies of water always photograph black as ink.

Shooting into the sun increases ap-  
(Page 73, please)

- Shutter speeds for shooting airplanes in motion. The "f number" column may be disregarded if you determine exposure by means of an exposure meter. Otherwise, use the values shown. They are calculated for a bright summer day and S. S. Pan film. The illustrations on this page are by Stuart L. Phillips.

position	shutter speed	f number





# Trees

By

EDWARD L. GOCKELER


*Photographs by the Author*

“ONLY God can make a tree —” the poet wrote, but anyone can make a photograph. When it comes to making good tree photographs, however, it is another matter, and there, again, perhaps the laurels remain in heaven.

Tree photography is important, not only for the pictorial merit in individual specimens, but also for the importance trees play in other scenic compositions. Many is the tree which remains unhonored and unsung despite its importance as foreground, background, or just atmosphere in some fine piece of pictorialism.

The photographer's first difficulty is that he tends to overlook the tree for the forest. He tries to include too much lumber. For this, the prescription is, “Move in closer. Make closeups.”

Trees possess distinct and interesting characteristics. One can readily identify the locale of many photographs by the



type of trees in them. In the Adirondack Mountains of northern New York State, where the accompanying photographs were taken, the various type evergreens and the vivid white birches are characteristic of the region, growing abundantly not only in the forests but right down to the waters edge along the shores of hundreds of sparkling lakes and streams. It is along these lake shores and beside mountain streams that the photographer finds best opportunities to photograph trees. Here, rather than in the forests, he finds space to get unobstructed views of particularly fine trees, and at hours toward sunset with the water quiescent, fine tree reflections are revealed. Such reflections are best found on quiet, windless days, and in late summer and early autumn when mountain streams flow slowly.

Not the whole tree need be included in the composition. A branch or two, the bottom of a tree trunk, or the camera tilted at an upward angle to catch just the swaying tops of trees in the wind, offer varied possibilities of interest. Here as in most outdoor photography the pictorial effect is enhanced by inclusion of appropriate cloud formations, either when the exposure is made or afterward printed in.

Foliage offers a subject which is gaining increasing popular interest with more universal use of such fine color films as are available today. Here, because of the cost of color film, and the fact that many color films are obtainable only in miniature camera sizes, the small camera is preferred over larger equipment.

- The side-lighting of late afternoon sunlight on June foliage is revealed in "Adirondack Birches" (below). Made with a 3A Kodak,  $f/7$  lens. Exposure  $1/5$ th second at  $f/16$ , on tripod. Kodak X1 (yellow-green) filter, S. S. Pan roll film.



In mountain regions where coloring of foliage is most vivid, the quality of the colors varies from year to year according to the amount of autumn moisture and the quantity of early frost. Yet when conditions are perfect the color of the leaves is in variety and vividness almost incredible.

A particularly fine season for tree photography is in the spring, when the leaves are not yet fully developed. Then light coming from an angle in the early afternoon or several hours before noon, can penetrate through the foliage, leaving patterns of light and shadow on tree trunks. A proper filter, (such as the Wratten X1 with S. S. Pan; or K2 with Kodak



Portrait Pan), according to the film used, will greatly enhance this effect, as well as bring out an otherwise unobtainable quality in the bark of trees.

There is no off-season, however, as far as trees are concerned. Early June foliage is shown on the subjects reproduced here.

Side lighting is necessary for emphasis and bark texture. This means shooting mostly in early morning and late evening hours. Another effective device, however, is silhouetting branches against the sky. In this case, patterns of black and white, rather than fine gradations of tone are aimed for.

A tree is one subject that stays put and is not finicky about which camera is used on it. There is plenty of time even for the camera owner like myself with an *f*7.7 lens.



# PANORAMAS

## with any Minicam

*"How can I make panorama photographs like those illustrating May Minicam's article on Perspective"? The answer to this popular question is, "It's easy." Any camera can be arranged to make panorama pictures and the subject may be the interior of a room or an entire city.*

By VICTOR H. WASSON

*Illustrated by the Author*

WHO hasn't held his breath before a landscape scene or architectural subject—only to see that his camera finder would not take in enough of the area—and to long for a panorama camera that would record on one negative the entire expanse as seen by the eye!

A panorama camera takes successive exposures on a long strip of special roll film. The panorama camera, however, is a specialized instrument. It costs several hundred dollars and is useless for other things.

An alternative is the wide angle lens. This also is costly and not always available. A wide angle lens, besides, may not have as wide an angle of view as desired.

By means of a simple, home-made fitting for his camera, the amateur can make photographs including as wide an angle as he desires, even going as far as to photograph through 360 degrees, a complete circle. He can, for example, show the four walls of a room laid out flat in one photograph.

This fitting is described in the accompanying sketch. It is like the sliding tripod block which can be purchased as a standard accessory for certain cameras.

This accessory serves to hold the camera on a tripod in such a position that the tripod screw always is directly under the optical center of the lens system. Thus mounted, the camera is used to take successive exposures. The camera is swung on its pivot about 45 degrees between exposures. The prints that result are pasted together like the illustration of the factory building here shown which was made from five such prints pasted together.

The lens is centered over the tripod screw by measurement. The bar is bolted loosely to tripod head and to camera tripod socket.

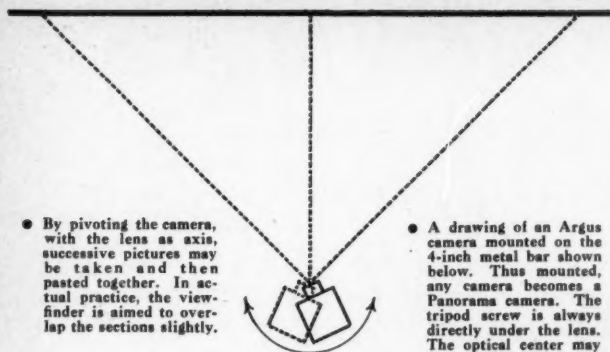
Determine the distance from the lens to a convenient point on the camera. Then measure this distance from this point to the tripod screw and tighten the bolts.

Lateral alignment can be accomplished by eye, it being rather easy to judge whether or not the tripod screw is directly under the center of the lens. For extreme accuracy a plumb line may be used.

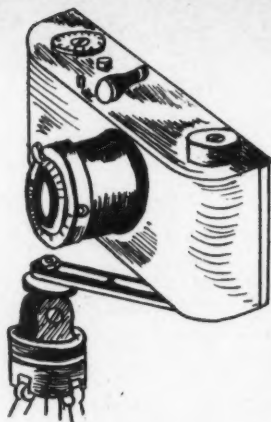
Shooting the exposure is quite simple. Mount the camera as shown and through the view finder sight an object at the extreme left of the scene. It is usual to

• A panorama picture made with an Argus. Five shots were taken from one point and the five prints then were pasted together. Exposure,  $f/16$ ,  $1/50$ th second, Panatomic film.





- A drawing of an Argus camera mounted on the 4-inch metal bar shown below. Thus mounted, any camera becomes a Panorama camera. The tripod screw is always directly under the lens. The optical center may be assumed to be midway between the front and rear elements of the lens system.



work from left to right. Frame a section in the finder noting some outstanding object appearing along the right side of the field. Make the exposure and transport the film. Swing the camera on the tripod head so that the object noticed on the right side of the field moves over to the left side. Make note of a new object on the right side of the field and expose and space the film again. This procedure is repeated until the entire scene is photographed. Allow a slight overlapping to serve as a guide in pasting up the sections.

When working with greatly varying distances, such as photographing a long building, especially if the street is too narrow to allow the camera to be placed very far away, it may necessitate changes

in the focus setting between shots, making it necessary to change the position of the camera on the tripod so as to maintain the approximate lens center in its position directly over the tripod screw.

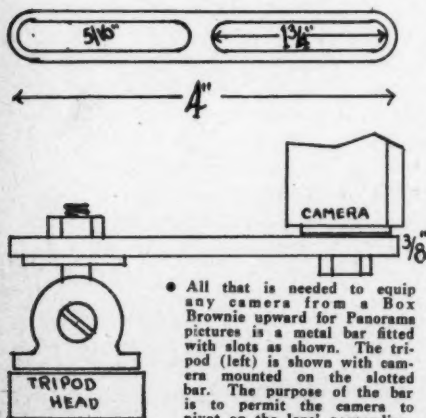
After development, the matching of the different exposures can be accomplished in various ways.

One method though a very exacting one, is to place the negatives, one at a time in the enlarger, marking lightly on the paper where the edges of each section appear. These edges are masked and the exposures are made. The negative is changed, the paper moved over and the next section printed in register with the preceding section, being sure that the edges are masked, and so on until finished. However, the only compensating factor for this very careful work is the fact that the print will be all in one piece.

Another method if your negatives are large enough, is to remove the emulsion with etching tools so as to bring the edges of the sections into register and print by contact. This, too, gives a one-piece print but requires considerable skill.

By far the simplest method is to make a print of each section and then paste them together with rubber cement. Place the first one on a sheet of glass illuminated from below. Fasten the second print to it. Fasten the third section to the second, etc.

(Page 66, please)





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## Panoramas

(Continued from page 64)

Allow the cement to dry and, being sure the prints are still in register, cut through both prints where joined. Follow an irregular course over the darkest part of the prints. Pull off the parts to be discarded and remove the remaining cement by rolling it off with the fingers. Coat a mounting board with rubber cement and allow to dry. Coat the backs of the prints and allow to become dry also. These two surfaces will adhere on contact. Place print 1 in contact with the mounting board and press flat, and so on. If you still want a one-piece print, these cut sections may be sandwiched between glass, without cement, and a paper negative made, from which you may print your one-piece positive.

## New Developer

(Continued from page 38)

4. Agitate frequently during development. Once every two or three minutes is excellent.

5. For normal contrast, develop exactly twice as long in the diluted developer as is specified for the regular Edwal-12 or Edwal-20, and three times as long as is specified for Champlin 15.

The above three developers are the only ones whose formulas are available to the public, which have been used successfully. Developers containing no diamine cannot be used, and some diamine developers such as the Sease No. 3 and the Parker formulas were found unsatisfactory. Several prepared secret-formula developers were tested but were found to require increased exposure.

The diluted-developer method has been tested on many emulsions under practical working conditions as well as in the laboratory, and the results of some of these tests are given here with reference to grain size, effective emulsion speed, general printing characteristics, and ease of use.

**Grain:** A series of test strips on DuPont Superior were exposed under identical conditions and developed to the same contrast in fresh, concentrated developer and in the 1:9 diluted developer. The photo-micrographs (880 diameter magnification) of the grain which were made on areas of equal density are shown here. The grain size with the diluted developer is approximately the same as with the fresh concentrated solution. However, it is not as fine as with developer that has been used several times.

**Emulsion Speed:** On 35 mm. emulsions, there seems to be no appreciable difference in effective emulsion speed between film developed in fresh Edwal-12 or Edwal-20 and the 1:9 dilution of these developers. With the Champlin 15, the 1:9 dilution produces a slightly higher emulsion speed than fresh Champlin 15. With the larger films, this increase in

speed is more marked.

**General Printing Quality:** The diluted developer produced negatives of about the same printing quality as the regular developer with Edwal-20, but with both Edwal-12 and Champlin 15 the 10 per cent developer was an improvement over the regular concentration. Fresh developer tends to give very dense high-lights on subjects of strong contrast, but with the 10% dilution, this tendency is diminished so that there is no tendency to "blocking-up" in the denser portions of the negative.

With Champlin 15, the diluted solution seems to produce better tone-separation than the regular concentration. A possible reason for this is apparent from inspection of the Champlin 15 photo-micrographs.

**Ease of Use:** In general, the 10% diluted developer may be used under the same conditions as the regular concentrated solution. With Edwal-12 and Edwal-20, films may be developed at any temperature from 65 to 73° F. With the Champlin 15, 70° F. is best. There is no unusual softening of the gelatin.

Experiments with developing at higher temperatures showed that with regular Edwal-12 and Edwal-20 development can be carried on up to 85° F. if 50 grams of anhydrous sodium sulphate (or 100 grams of sodium sulphate crystals) are added to each liter of solution. With the diluted developer method, regular Edwal-12 or Edwal-20 may be diluted with nine parts of water containing 50 grams of anhydrous sodium sulphate per liter if development at higher temperatures is desired.

The addition of the sodium sulphate slows up development somewhat so that the developing times must be increased about 25% at any given temperature. For example, DuPont Superior is developed 11 minutes at 75° F. in regular Edwal-12. If sulphate is added, the developing time is increased to 14 minutes. For development at higher temperatures the time should be cut 20% for each increase of 5° in temperature. Thus, at 80° F., DuPont Superior would be developed 11 minutes, and at 85° the time would be 9 minutes in



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regular Edwal-12 containing sodium sulphate.

In the same manner, DuPont Superior would be developed 22 minutes at 75° F. in 10% Edwal-12 *without* sulphate or 28 minutes at 75° F. *with* sulphate. At 80° F. the time would be 22 minutes and at 85° F., 18 minutes. Even at 90° F. (developing time 15 minutes) a usable negative can be made, though the grain is not as fine as at lower temperatures.

(In Champlin 15, Dupont Superior is developed 20 minutes in the normal strength developer and 60 minutes in the diluted developer. This is at 70°.)

**Summary:** The method of using the "compromise" fine grain developers at 10% dilution is not presented as a "cure-all" for every fine grain trouble. Its two chief advantages are (1) absolute uniformity of results and (2) economy. If one roll is developed in a pint of diluted solution, twenty rolls can be developed per quart of original developer. Indeed, with some of the spiral grove tanks, two rolls of 35 mm. film can be loaded back to back and thus forty rolls can be developed in a single quart of Edwal-12 or Champlin 15.

The grain is equal to that produced by the fresh concentrated developer, but is not as fine as that produced by concentrated developer that has been used several times. On the other hand, the diluted developer gives some improvement of negative quality with Edwal-12 and Champlin 15 and there is also some increase of effective emulsion speed with Champlin 15.

A further advantage is that the use of ordinary, non-alkaline tap water does not produce fog with the diluted developer method, whereas it often does with the concentrated solution.

### DEVELOPER EDWAL 12

Water (distilled) .....	32 ounces	1 litre
Metol .....	90 grains	6 grams
Sodium Sulphite (anhydrous) .....	3 ounces	90 grams
Paraphenylenediamine (pure base) .....	150 grains	10 grams
Glycin .....	75 grains	5 grams



## Texture Triumphs

(Continued from page 27)

sion when printed through. The minute black markings or pattern of the screen must be opaque and show contrasty against the transparent field. If the home-made screens, like the purchased ones, are properly made, their impediment to printing time while in position over the paper is negligible.

Another way to produce a screen effect is by printing through the reverse side of sensitized paper. The light passes through the paper before reaching the emulsion and the texture of the paper is incorporated in the printed image. The manifold variety of effects are inexhaustible and is limited only by the number of papers, both single and double weight, available. Hardly two paper base textures are alike in structure and every package of photographic paper offers possibilities for new screen effects.

Distinctive screen effects also can be obtained by means of various materials such as parchment paper, drawing paper, tissue paper, bolting cloth, thinly woven silk, chiffon and wire cloth. Ground glass may be used, with rough side in contact with the face of the enlarging paper. If you could borrow the line screen that the photo engraver used to break up the image into dots to make the half-tones for the illustrations in this or other magazines and placed it over the enlarging paper during exposure, it would give a very pleasing half-tone effect to your print. A coarse newspaper half-tone screen was used in this manner over thirty years ago by the author.

By practicing the unique screen printing methods as described, many a useless coarse grained 35 mm. negative can be salvaged. An ordinary appearing composition may be transformed into an excellent print.

Choice of subject matter is important. All subjects do not lend themselves to screen treatment. For a start, try screen effects on some of your old portrait negatives.

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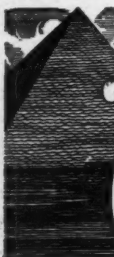
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## WHAT STRANGE POWERS

### Did The Ancients Possess?

WHERE was the source of knowledge that made it possible for the ancients to perform miracles? These wise men of the past knew the mysteries of life and personal power. This wisdom is not lost—it is withheld from the masses. It is offered freely TO YOU, if you have an open mind. Write for free mailed book. Address: Scribe K Z H

**The ROSICRUCIANS**  
San Jose (AMORC) California

## Opportunities In Advertising

(Continued from page 45)

tisement for approval by the agency's client.

Any minicam hobbyist who wishes to carry his camera work into the profitable field of advertising photography must bear in mind a few warnings. First, never to attempt to take assignments calling for highly stylized settings, viz., smart people in evening attire assembled in swank places, illustrations calling for special costumes or difficult situations requiring exceptional properties. Second, never to attempt too artistic results in prints, viz., heavy shadow treatments or soft, foggy effects that defy good reproduction on the printed page. Third, keep close to the art director's visualization of the finished picture. Improvements may be tried, but it must be remembered that the art director knows what he wants. And fourth, to keep relations with the agency on an even keel, the amateur cameraman must never take an assignment unless he is positive he can meet it.

Any amateur photographer who can satisfy an agency's requirements for prints to use in making semi-finished advertisements for the advertiser's approval stands in good stead to receive regular work of this type. And he has an excellent chance of getting an occasional assignment for the actual photography to be used in the published magazine or newspaper advertisement. And let us emphasize here, once a candid camera craftsman can show samples of work done for a few advertisers, he is on the high road to real money in the field of advertising photography.

If up to now this leap into advertising with a candid camera has seemed too daring and difficult for many of our readers, there is yet another way in which money can be made by minicam hobbyists.

Earlier in this article the author stated that advertising agencies purchased "stock shots" or library photographs from commercial houses. These pictures are usually general in interest and subject matter. They run the gamut of material from

scenics of farms, seashores and sports events to semi-dramatic pictures of common-places in family life to baby portraits and action photos of children. Good clear pictures of these types, well composed and interesting, can be sold in enlargement form to agencies. Samples sent via mail or submitted in person, will result in sales if the work submitted is suitable for reproduction and adequate in interest to meet the agency's needs for its advertisers. And photographs of this kind can be sold to the "stock shot" firms for inclusion in their library offerings to their clientele. Where sales of this material are made, the minicam photographer may take reimbursement for his negatives in either outright payment or contract for a royalty fee for each print sold by the house.

Perhaps the simplest way for the amateur to break in is through one of the picture agencies.

The following are among those who sell illustrations for advertisements and for use in periodicals. They are not interested, especially, in news photographs. Preferred print size is 8 x 10, glossy. It is a good idea to query a syndicate before submitting material.

Associated Photofeature Syndicate, 48 Charles, Boston, Mass.

✓ Black Star Publishing Co., Graybar Building, 420 Lexington, New York City.

✓ Crown Foto Features, 11 West 42nd, New York City.

Ewing Galloway, 420 Lexington, New York City.

✓ Free Lance Photographers Guild, Room 1702A, 505 Fifth, New York City.

✓ Globe Photos, 33 West 42nd, New York City.

✓ Loder Photographs, 476 Chanin Building, New York City.

✓ Monkemeyer Press Photo, 225 Fifth, New York City.

National Feature Synd, 523 Weiser St., Reading, Pa.

O. J. Jordan Syndicate, Albee Building, 15th & G Streets, N. W., Washington, D. C.

✓ Pictorial Feature Service, 11½ East 49th, New York City.

✓ Three Lions, 55 West 42nd, New York City.

Underwood & Underwood, 420 Lexington, New York City.

Universal Trade Press, 724 Fifth Avenue, New York City.

When working direct with advertis-

*We have Everything*  
**PHOTOGRAPHIC New or Used**  
*at attractive Prices*



**BARGAINS?**  
Yes, we have some swell bargains on hand, not only in Cameras, but also Projectors, Enlargers, Accessories. Write us first—Get our BARGAIN PRICES on your needs. Trades accepted.

**CAMERA EXCHANGE ORIGINATORS**  
Since 1830—Address Letters to Dept. M-6

**NEW YORK CAMERA EXCHANGE**  
109 FULTON ST. NEW YORK

**PROTYME** Projection Printing **NEW**  
Exposure Meter



Sensitive Vacuum Photo Cell type. Plugs into light socket. On any also print correct exposure in seconds reads on meter. No figuring—no records—no spoiled paper. Practical, durable, compact. Simple instructions. Ready to use \$15. ORDER TODAY—MONEY BACK TEE. Send \$2 for CDD shipment. Free literature.

**J-M-P MFG. CO.**  
3024 N. 34th St. Est. 1923 Milwaukee, Wis.

**FOR CANDID CAMERA FANS—**

Your 16mm. roll of film, fine grain processed and each shot enlarged to approximately 3½ inches is only one dollar (\$1.00).

Wrap a One-Dollar Bill Around Roll of Film (or C.O.D.) and MAIL TO DEPT. M

**RAY'S PHOTO SERVICE, LA CROSSE, WISCONSIN**  
(Gratifying Service Since 1920) International Photo Finishers

**CHOOSE YOUR LATEST MODEL CAMERAS**



**FOR 10% DOWN**  
BALANCE 10% PER MONTH  
NO FINANCE COMPANY  
YOUR CREDIT IS GOOD HERE

**SEND** for our big camera catalog, 8½x11", 40 pages, 93 illustrations. Finest makes. All latest models. How to choose your camera, time payment plan, liberal trade-in policy, etc. Catalog postpaid **10c**

**NATIONAL TARGET & SUPPLY CO.**  
Dept. Y-31, 1249-SB 25th St. N. W., Wash., D. C.

**1001 CAMERA BUYS**  
**EVERYTHING IN PHOTOGRAPHY AT**  
**AMERICA'S FASTEST GROWING CAMERA EXCHANGE**  
Authorized DEALER FOR ALL MAKES OF CAMERAS

**HABER & FINK CAMERA EXCHANGE Inc**  
16 WARREN ST. N.Y.C. BARCLAY 7-1230



"SHOTS" or to remove them without risk of damage. The wide transparent pockets meet the demand for candid owners to display strips in one row.

The "VISULOG" is complete in every detail. Contains 6 pages with non-inflammable, transparent pockets assorted with various sizes to meet the requirements of various size prints. Also contains full page transparent pocket for enlargements and then there are 12 sheets of black album paper for pictures you want to paste down permanently. Remember, the "VISULOG" is loose-leaf so you may add as many more pages as you wish.

VISULOG is furnished in either genuine leather or leatherette and made in sizes as described below:  
 No. 100—Beautiful gold tooled genuine leather 10x12" \$12.50  
 No. 101—Same as No. 100 in fine quality leatherette 8.00  
 No. 102—Beautiful gold tooled genuine leather 8x10" 7.50  
 No. 103—Same as No. 102 in fine quality leatherette 3.50  
 No. 104—Beautiful gold tooled genuine leather 7x9" 8.00  
 No. 105—Same as No. 104 in fine quality leatherette 2.50

Your choice of: Tan, Brown, Green or Red.  
**FREE OFFER** Your monogram worked into an artistic design and stamped in gold free if you send cash with order. Order today, either direct from us or through your dealer.

**FROELICH LEATHER CRAFT CO.**

Makers of Fine Leather Goods NEW YORK  
 43 W. 16 STREET.

## MAKE MONEY Sell photos to the press. In full or spare time.

Latest edition Photo-Markets, complete instructions, 2000 buyers, prices paid, subjects wanted, 152 pages of real information 40c—Sample last year's edition 10c—Two color press cards 25c—"Press" auto metal signs \$1.00—Release forms for adults or minors 1c each. All photographic books. Catalogue Free.

**P-H-O-T-O—M-A-R-K-E-T-S**

Press Headquarters for 5 years.

402-N Evans Building Washington, D. C.

## Bargains Like These

The new F & R tank.....	\$ 3.95
Hugo Meyer Plasmalens 3" F1.5 for Leica..	125.00
Leica G F2, slightly used.....	135.00
F4.5—135 MM Elmar for Leica.....	75.00
F1.9 75 MM Hektor for Leica.....	125.00
Simmon Enlarger—used once for demons.....	37.50
Nite Exakta F2, Zeiss Biotar.....	160.00
Contax III, F1.5, appear. and con. as new.....	250.00
Speed Graphic—used—F4.5 Orix lens.....	45.00
Speed Graphic—used—with F4.5 Tessar in Compur.....	75.00
Bolex 16MM F1.4 Leitz Hektor lens—demons.....	250.00
Kodak 16MM E. E. Enlarger.....	47.50
4x5 Auto Graflex with F4.5 K A lens.....	50.00
\$135.00 Movie tripod.....	25.00
Good F4.5 cond. enlarger.....	20.00
Argus 35MM \$10.00; Argus enlarger.....	10.00
Copying attach. for Leica.....	10.00
F3.8—14" lens.....	35.00

SEND FOR FREE LIST

**WELLS-SMITH**

71 East Adams St., Chicago, Ill.

1/2 Block from Art Institute.

## Learn Photography at HOME

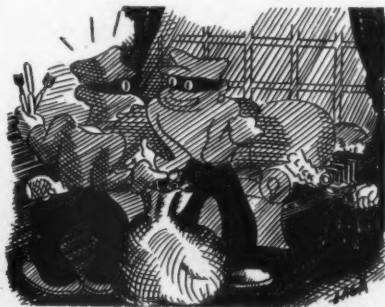
Splendid opportunities. Prepare quickly in spare time. Easy method. No previous experience necessary, common school education sufficient. Many earn while learning. Send for free booklet "Opportunities in Modern Photography", particulars and requirements.

AMERICAN SCHOOL OF PHOTOGRAPHY  
 3801 Michigan Avenue Dept. 104-A, Chicago, Illinois

ing agencies, candid camera craftsmen may expect to receive from twenty-five to seventy-five dollars per assignment for a series of photographs for a semi-finished advertisement. Orders for finished work will gain anywhere from twenty-five to fifty dollars additional. These prices are commonplace in agency work and they represent low figures in comparison to fees paid to commercial studios. For outright sale of a negative to either an agency or a "stock shot" house, the amateur photographer may expect from ten to fifty dollars, depending on the quality of the subject and its suitability for re-sale. Print-royalties with a "stock shot" firm will bring from one to five dollars per print per subject.

There is a place in advertising for the skilled candid camera amateur. He can bring to advertising many prints of subjects that are unposed and natural. He can lend to advertising a homey realism and authenticity that will make for conviction. Because of his lack of professional values, many of which are trite, stiff and obvious, he will stumble into new angles of interest, plain-folk delineations and everyday commonplaces that much advertising art requires to give it a true-to-life ring.

Study photographic illustrations in advertising. Read a good book or two on art in advertising. Then tackle this field that amateur candid cameramen have failed to recognize to date. There is opportunity in it!



Don't worry, he can't get nothin' in here at a 25th with only a 3.5 lens.

## Shooting the Skylanes

(Continued from page 59)

parent haze and makes a deeper filter necessary.

When photographing into a clear sky, use the minimum filter density and the maximum shutter speed. A deep filter makes a clear sky look like a dirty gray.

Patterns on the ground furnish one of the chief subjects for aerial shots. It is drawing on the "grand scale" when a great river becomes a hair line on a negative. From normal flying altitudes of 5,000 feet or more, however, the detail is small, too much area is taken in, and the result is likely to be disappointing. It is best then to shoot from lower altitudes while the transport is ascending or descending. For these shots, increase shutter speed, and snap fast.

A plane moves so fast that no eye can possibly take in all of the details below it. There is no time to study a subject or point of view. Whatever choice there is must be anticipated because you can't go back and shoot that good angle you saw before.

When taking movies, in order to keep the same area in the viewfinder during each scene, pick out a landmark near one corner of the frame and keep this point in the same position all the time. When air is bumpy, it also is good to keep one spot of the image in the same place on the viewfinder.

For photographing large cities from the air, the best time is early morning on a clear day. The low sun not only gives effective side lighting to the subject, but at that time of day there is a minimum of the haze and smoke which in the evening covers a city like a blanket. In less populated centers, the evening is the best time as haze then is at a minimum.

When cinecaming any moving object, pan only in the direction of movement.

Armed with the above pointers, anyone can invade his local airport and, whether he takes off or stays on the ground, obtain new, unusual and dramatic shots.

## LITE-MASTER



**SOLVES ALL  
YOUR LIGHTING  
PROBLEMS!**

**TRANSFORMS ANY  
HOUSEHOLD LAMP  
INTO A FLOODLIGHT**

No longer need you use expensive short-life, flood light bulbs! The Lite-Master transforms any ordinary household light bulb into a flood light at the mere flick of the switch. More than that, you can get the exact lighting desired! Four outlets are provided. Lite-Master steps up the light power of any electric light bulb, 2 1/2 or 5 times as desired. For example, you can use 2-100 watt bulbs in your reflectors. Flick the switch to No. 2 position and you have the equivalent of 500 watts; flick to No. 3 position and you have the light output of 1000 watt flood light; permitting indoor movies or snapshots. Extremely flexible, you may use any combination of 15c bulbs: 25, 40, 60, 75 or 100 watts. Ideal for enlarger or projector. Saves its price many times over in current and bulb cost. Operates on A. C. current only.

If your dealer cannot supply you, send \$9.75 and we will ship direct postpaid **\$9.75**

If you prefer, send \$1.00 deposit, we will ship C.O.D.

**HAYNES PRODUCTS CO.**

136 Liberty St., Dept. MA-438, New York, N. Y.

## Camera Equipment Cases

Carry all your equipment in ONE Case. Send us a list of all equipment to be carried and we will send you a free estimate on a Special Case to meet your requirements . . . Fibre Cases suitable for carrying or shipping Salon Prints carried in stock. . . .



**AMERICAN TRUNK & CASE CO.**

INC. 1906  
20 S. WELLS ST. DEPT. M CHICAGO

## MOGULLS HOME MOVIES YEAR-ROUND SALE & PHOTO NEEDS

### REMOVAL SPECIALS

A gay carnival of unusual values which, we feel, won't be duplicated for a long time to come!  
Rolleiflex 4x4 72.5, with case, \$24; National Graflex 11, \$81.50; Leica 'Q' 72, \$82; \$130; Robot, 72.5, \$102; Leica 'b' Chrome, 72.5 with case, \$55;  
Contax 1, 73.5, \$78;  
Exakta V8, Tassar 73.5, \$78; Kodak Retina 11, 73.5, \$41.50;  
Super Baldino - X-100 72.5, \$41.50; and many, many more listed in our free bargaingram.

Regular \$32.50-\$4.50  
**MINIATURE ENLARGER \$24.50**  
35mm to 8x11  
rust pocket size

**10-DAY TRIAL PLAN ASSURES YOUR SATISFACTION**

TRADES ACCEPTED BARGAIN BOOK—FREE

2-16 MM Silent-Sound Film Rentals.

**MOGULLS** 1944 N. Boston Road

New York, N. Y.

After June 1: 66 W. 48th St., N. Y. Radio City

TRADE-INS ACCEPTED

FILM RENTAL LIBRARY



## PERFECT ENLARGEMENTS

### ARE EASILY MADE

With vibration proof enlarger assembly: extreme capacity on work table (up to 12"x18" using regular 24" upright; 20"x30" using 48" upright, from 24 x 36 mm negatives); 3" first quality double condensers, giving intense, even illumination for any size prints; high-low light control, to suit thin or dense negatives; on and off foot switch, leaving both hands free for "dodging"; quiet accurate focusing; metal carrier, for cut or uncut film; red filter and extra Min will enlarge up to 1 1/4" x 1 1/4" (4x4 cm) negatives to any size you can handle. Min is A SUPER VALUE made possible only by quantity production and selling direct to the user. Min is also furnished without lens, \$17.50; with bayonet mount fitted for CONTAX lenses, \$22.50; with mount to take FOTH DERBY lenses, \$18.50; with \$4.00 for LEICA lenses, \$20.00; 20"x24" baseboard, \$1.25; 48" upright in place of regular 24", \$1.50; opal half, 50 cents. Paper holder, for up to 10 1/2"x13 1/2" prints on 11"x14" or 14"x17" paper, \$3.95. ALL PRICES ARE POSTPAID, subject to return within 10 days. TRY MIN UNDER OUR MONEY BACK GUARANTEE. Please state carrier desired—if for 24x36 mm (1"x1 1/2") or half vest pocket negatives.

Min is also furnished for up to 2 1/4"x2 1/4" negatives; with 3" f4.5 Velostigmat... \$32.50  
With Range for Koveite lenses... \$22.50  
For National Graflex lenses... \$22.50

### LEONARD WESTPHALEN

75 E. Wacker Drive Chicago, Ill.

MADE  
IN  
U.  
S.  
A.



### With MIN LARGER

complete with 2" focus f3.5 Wollensak Velostigmat with iris diaphragm

**\$29.50**

With Range for NEW f3.5 ARQUS

**\$18.50**

## Mammals As Models

(Continued from page 48)

about the head were not clearly cut indicating movement in the first set of exposures, but in those that were taken at 1-50th there was no apparent motion. The protective reflexes of many of the lower animals are often much more rapid than our own and account for many failures of animal pictures taken at close range.

Any one who is trying to make a collection of nature pictures, particularly mammals, should always be on the lookout for captive or semi-domesticated individuals. Sometimes this is the only way that many very shy forms can be photographed satisfactorily. The manner in which such pictures are obtained should be indicated so there will be no danger of the photographer being branded as a "nature fakir." The accompanying pictures of racoon are photographs of captive animals. These young coons were taken from the mother while mere babes and had learned not to fear man. In spite of which fact these youngsters used their claws and teeth to such advantage that they were always dangerous to handle. They lived in a hollow stump and were easily coaxed outside for food when photographic conditions were at their best.

Another advantage in keeping animals as captives for a while lies in the possibility of studying them to learn their habits. Thus one is prepared to photograph something that is really characteristic of the animal rather than catching it in a pose that is unnatural or rarely assumed. In this way I learned first hand how coons catch fish and after constructing an artificial stream which I stocked with small carp I was able to get a movie record of the methods a coon uses in catching a fish, a thing that would have been next to impossible in a wild state. I learned how a coon can open a melon and eat all of it through a hole no larger than a dollar—a habit which was likewise photographed. One always has to be

## FOR CANDID CAMERA FANS

25 ft. Dupont, Eastman Super X or Agfa Super Pan 35 mm. film. All guaranteed.

**\$1.00 per roll, Postpaid**

(FREE: Ask for a copy of Hollywood "PHOTO FLASHES" chucked full of low-down.)

### COAST CAMERA COMPANY

Department H-6

P. O. Box 588, Hollywood Station, Hollywood, California



### WAHL AUTOMATIC ELECTRIC TIME SWITCHES

To control enlargers, exposures and numerous other devices where timing is necessary. Has additional focusing switch for separate control, \$10.00. Special timers made for radio control and other electrical devices—Write today for catalogue.

WAHL EQUIPMENT CO.  
814 Broadway, New York, N. Y.

## Free PHOTOGRAPHIC ALMANAC

Now ready—central's new Free 128 page Photographic Almanac—including (1) Special month-by-month Photographic Calendar. (2) Special article by leading photographic authority. (3) Handy Exposure table, film and plate speed table. Exposure Guide. (4) Over 100 pages of still and movie cameras, lenses, enlargers, chemicals—everything photographic—many at big savings and ALL GUARANTEED on 10 Day Money Back Trial. (Used equipment accepted in trade). Write for your free almanac now. Central Camera Co., 230 S. Wabash, Dept. 128, Chicago, U.S.A.

**PHOTOGRAPHIC HEADQUARTERS SINCE 1899**



careful not to get irrelevant materials in the background of such pictures. Always try for a natural setting if circumstances will permit it. There is nothing wrong with taking pictures of partially tamed or captive animals so long as one is careful to explain the situation under which they were photographed.

At best it is not easy to take good nature photographs, but there is a lot of real sport in store for one who has the disposition and the equipment to try. To bring back a successful print of even a captive wild mammal requires very much more skill not only in stalking but in the handling of precision equipment and processes than is ever required of a gun hunter. Take your camera for a change and go picture-hunting.

## How Flash Works

(Continued from page 39)

chronizing focal plane shutters is to apply the proper tension to the tripper or plunger of the synchronizer so that the shutter will start with the peak of the flash.

With Compur shutters it is possible to have the shutter open before the peak and remain open long enough to permit sufficient light for a well-exposed negative; but with a focal plane shutter the light must remain constant during the entire exposure.

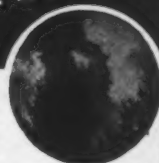
A unique method of regulating this tension is the Micrometer adjustment feature of the Kalart Micromatic Speed Flash which permits adjustments within one one-thousandth part of a second. By turning the head of the Speed Flash the tension of the spring behind the plunger is adjusted until the shutter is released at the right time.

## USE A REFLECTOR

An ordinary sheet of white cardboard, bristol board, or a white sheet makes an effective reflector. Place it opposite the light source when photographing a portrait or other interior scene. Illuminating the shadows in this way may make an ordinary picture an excellent one.

Think Twice  
BEFORE YOU BUY A FILTER!

Certainly, you can buy an inexpensive filter . . . but OMAGS are your absolute guarantee against all forms of filter-failure . . . against improper correction . . . against distortion.



## Make Certain With OMAG

OMAG precision calibrated filters (made in Switzerland) are made from genuine solid crucible optical glass uniformly colored in the batch. Their transmission characteristics are calibrated to correspond as closely as possible with those of the popular gelatine types used so extensively in this country. OMAG filters are hand polished to precision tolerances for plan-parallelity and optical flatness, thus eliminating the slightest possibility of distortion.

OMAG filters are available in a complete line of colors and lens sizes. Kits comprising your choice of four assorted OMAG filters in a hand made case may be had at special prices. See them at better dealers or write for interesting and informative literature, Dept. M-1.

**CHESS-UNITED COMPANY**

EMMET BLDG., MADISON AVE. AT 29TH ST., N.Y.C.

And Now

# CANDIDOL-

the FASTEST  
Fine-grain  
Developer



### SPEEDY!

10 Min. for  
AGFA ULTRA SPEED  
DUPONT XL

12 Min. for  
EASTMAN SUPER X  
8 Min. for  
AGFA F. G. SUPERAN  
AGFA F. G. FLANA  
AGFA PINOPAN

DUPONT SUPERIOR  
EASTMAN S. S. PAN  
EASTMAN PANATOMIC  
EASTMAN VERICROME

DUPONT FARPAN  
6-7 Min. for  
VERY SLOW FILMS

a new formula with amazing capacities —will develop normally exposed negatives in the fastest possible time, giving fine grain, good contrast, full gradation and shadow detail on all types of film. When two bottles are used in combination, one to replenish the other, CANDIDOL retains its strength and speed indefinitely and produces finer and finer grain. Contents of a 32-oz. bottle develop 10 to 12 rolls of 35 mm film or equivalent, and when used in combination as suggested above, up to 20 rolls can be developed from one bottle. Time, temperature or climatic change won't affect its quality.

Price: 32-oz. bottle, \$1.25;  
one gallon, \$3.75

At your dealer's or direct from

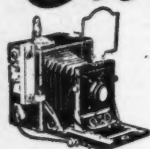
# MEDO

Exclusive Candidol Distributors

15 West 47th St.,

New York, N. Y.

# Now! BUY ALL FAMOUS CAMERAS AND EQUIPMENT *On Credit!*



Now! Just a few cents a day buys your choice of famous cameras... still or movie! Small down-payment, 12 months to pay. Trade-in your old camera... we'll accept it as down-payment if it has sufficient value.

## 12 MONTHS TO PAY!

Choose from Speed Graphic, Bantam Special, Leica, Contax, Rolleiflex, Exakta, and others. Movie cameras, enlargers, and projectors, too.



Write for details of our Time Payment Plan for responsible persons.

Financed Through Commercial Credit Co.

## LIBERAL ALLOWANCE FOR YOUR CAMERA!

Write Dept. B

# KLEIN & GOODMAN

18 S. 10th ST., PHILADELPHIA, PA.

## MINIATURE

### STANDARD ENLARGEMENT

2 1/4 x 4 INCHES . . . . . 5c EACH  
From your 35 mm and 1/2 V. P. negatives only

### EXCEEDS YOUR EXPECTATIONS

These enlargements are distinguished by the depth of their rich blacks and the brilliance of their lighter tones. Made on Velour Black Bromide paper. Individually timed and printed by skilled experts who are Minicam enthusiasts themselves.

We serve others with satisfaction.

You too can be pleased.  
Write today for complete price list, samples and mail bags.

### SHOPPERS COLUMN

ROBOT TESSAR F2.8 LIKE NEW . . . . . \$85.00  
LEICA MODEL 2 CHROME LIKE NEW . . . . . 98.00  
HERTOR 135 MM F4.5 FOR LEICA (to increase distance) . . . . . 74.00

### AND OTHER BARGAINS

### MINIATURE PHOTO LABORATORIES

625 Lexington Ave.

New York City

Fine Grain Developing Only  
—Nothing Else.

Positives for  
Projection  
(full roll)  
35 mm  
2 1/2c  
per frame



## THERE'S MONEY IN YOUR CAMERA!

Others make good incomes selling pictures to publications. Free booklet describes home-study course (which may be paid for in easy installments) and tells how You can do too! Universal Photographic, Dept. 1028, 1st West 33 Street, N.Y.C.

## Nature Patterns

(Continued from page 36)

narrow strip of sky, seemed to steal the show from the others. The oblique lines of the pickerel weed leaves suggested animation, made the subject worth taking. Placid mood of the lily pads only emphasizes the gyrations of the dark figures.

No expensive camera with elaborate adjustments was needed. Under the rapidly changing light conditions, a small, quick acting instrument was most suitable. Focal length of the lens was sufficient to record focal perspective. No filter was wanted because the reflected lights contained yellow and already were too strong: and there was no need for light on the shadow side of the dark green leaves.

Eastman Vitava Opal P, Agfa Indiatone Kashmir Ivory and other makes of similar chloro-bromide papers are entirely suitable for this subject, as well as for most vegetation patterns. These papers have fine grain, light buff color and rich, warm shadow tones.

Exposure was 1/25 second at f/11 on Agfa Fine Grain Plenachrome 2 1/4 x 3 1/4 roll film, no filter. Zeiss Ikomat camera, with 10.5 cm., f/6.3 Novar anastigmat lens, eye level finder, camera held in the hands.

## COVER PHOTOGRAPH of the Month

"Beach Beauty," by MacNichol-Cummins, was shot for MINICAM indoors. The translucence of the colored umbrella was obtained by focusing every available light on the back of the umbrella.

The back-lighting served also to increase the sunlight effect by illuminating the sand—it was real sand—in the background along the right margin of the photograph.

The reproduction for the cover was made from a Chromatone print.

The bathing suit is a B.V.D. model and the beach accessories are by Abercrombie & Fitch, New York.

## Keeping Up With the Fast Set

(Continued from page 17)

shooting at five feet, two feet make a difference of about forty percent. But when you shoot at fifty feet the two feet one way or another makes no great difference.

The first picture of the sequence shows the girl being hoisted backwards. The second shows her flying through the air with the greatest of ease. Here the fast shutter "froze" the girl's flight in mid-air.

The bottom shot completes the story. Had the lensman pressed his cable release a fraction of a second earlier, he would have shown the subject part in and part out of water—a most dramatic and effective shot.

When a series like this is desired, it is worth while to shoot it several times and then select the most telling prints for the sequence. This would permit the shots to be taken from several points of view, instead of all of them from behind the two men as was done here. The final shot then, might be a closeup showing just the girl plunging into the water. Make a sequence like this. The subjects are only too willing these warm June days.

## MINICAM \$175.00 Water Picture CONTEST

Shoot startling water photographs and submit them to Contest Editor, MINICAM Magazine, 22 East 12th St., Cincinnati, Ohio. First prize \$100 with second and third prizes of \$50 and \$25 respectively.

CONTEST CLOSSES JULY 1, 1938.

FOR COMPLETE RULES SEE  
MAY ISSUE OF MINICAM,  
PAGE 60.



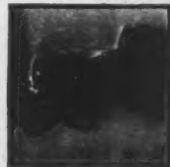
Our monthly values are eagerly awaited by fans all over the country. This month, we outdo ourselves with one of the strongest line-ups of bargains we've ever presented. Each camera is in perfect condition, and carries the Henry Herbert money-back guarantee. Choose your camera and order immediately!

* Contax III F1.5 Case.....	\$250.00
* Contax II F1.5 Case.....	190.00
* Contax I F1.5 Case.....	150.00
* Weiltini F2 Xenon Case.....	75.00
* Super Ikonta B F2.8.....	95.00
* F2 85 MM Contax Black.....	115.00
* F8.3 180 MM Contax Black.....	75.00
* Leica F2 Summar Case.....	155.00
* 1 1/2x2 1/4 Precisa F2.8 Fronto.....	25.00
* 9x12 Mitroflex F4.5 Tessar Case.....	100.00
* 12" F5.6 Dallin Barrel.....	40.00
* 12" F8 Dallmeyer Popular Barrel.....	30.00
* 5x7 Graphic F4.5 Steinheil in Compound.....	130.00
* 4x5 Graflex Ser. B. R. B. F4.5 K. A.....	55.00
* 5x6 cm F6.3 W. A. Meyer for Exakta.....	35.00
* 4x13.5 Haidoscope F4.5 Tessar Mag. F.P.A. Case.....	125.00
* 4x5 Ser. D. Graflex F3.5 Tessar.....	125.00
* 4x5 Tele Graflex F4.5 Tessar.....	80.00
* 3 1/4x4 1/4 Ser. B. R. B. Graflex F4.5 K. A.....	45.00
* 3 1/4x4 1/4 Ser. D F4.5 B. & L. Tessar.....	75.00
* 9x12 Bagges Fldg. Reflex F4.5 Tessar.....	35.00
* 9x12 Kewes F4.5 Xenar Compur D.E.F.P.A.....	22.50
* 2 1/2x3 1/4 Plaubel Makina F2.8.....	40.00
* 3x4 cm Dolly F4.5 Vario Shutter.....	10.00
* 7 1/2x2 1/4 Exakta F3.5 Anast.....	65.00
* 35 MM Weilti F2.9 Cassar Compur.....	30.00
* Bantam Special F2 Compur.....	50.00
* 2 1/4x2 1/4 Superb F3.5 Skopar Compur.....	50.00
* 2 1/4x2 1/4 Rolleiford F3.5 Triotar Case.....	55.00
* 2 1/4x2 1/4 Fothiflex F3.5.....	35.00
* 2 1/4x2 1/4 Super Ikonta C F4.5.....	50.00
* 2 1/4x2 1/4 Super Ikonta D F4.5.....	60.00
* 9x12 Avus F4.5 Skopar.....	32.50
* 8x12 Bee Bee F4.5 Xenar.....	37.00
* 9x12 Berghell F4.5 Hellar.....	55.00

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SPEED-O-COPY for Leica.....	\$25.00
SPEED-O-COPY for Contax.....	31.50
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Sliding Arm for Leica or Contax.....	9.50
Lens Tester for Leica Lenses.....	3.00
Lens Tester.....	4.95
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Revolving aperture permits a quick change of film from a horizontal to a vertical position without necessitating turning of easel or lamphouse. Sliding arm movement forward and backward. It enables you to select a single subject in a group picture, even when located at the extreme upper or lower end or near the margin of the film. Side tilting for elongation and caricature enlargements.

Model C for negatives up to 2 1/4"x2 1/4".....\$72.50

**IMMEDIATE DELIVERY ON AMERICA'S SCIENTIFICALLY-MADE ENLARGER**

Write for MINACO catalog

**MINIATURE CAMERA ACCESSORIES CO.**  
431 West Superior Street, Chicago, Ill.

# Photography

## TRADE NEWS

### Chess-United Magniviewer and Electric Agitator

Two important, precision-made photographic instruments have been recently introduced by Chess-United. The first of these instruments is the Imperial Magniviewer, a flexible optical lens mounted on a universal joint on your enlarger easel and retouching table. The Magniviewer provides better definition and greater accuracy, and gives sharp, highly magnified images in true proportion. It may be quickly and easily fitted to the baseboard of all enlargers.

The second instrument is the Imperial Electric Agitator which shortens negative developing time. The agitator does all the work for you while you occupy yourself with other things in your darkroom. It makes possible quick, positive and even agitation, scientifically controlling the grain, and resulting in precise, clear negatives.

The Imperial Agitator is made to accommodate all miniature developing tanks. For complete information about these two products, see your local dealer or write to Chess-United Company, Mohawk Building, 21st Street and 5th Avenue, New York City.

### Weston, Jr. Exposure Meter Offers Compact Simplicity

A NEW photo-electric exposure meter, unusually compact and simple to use, has been announced by the Weston Electrical Instrument Corp., Newark, N. J. Known as the "Weston Junior", the new meter is lower in price than any other Weston models, yet it provides dependable exposure settings for all normal picture-taking requirements. It employs the same type of stable Photronic Cell (electric eye) and sensitive instrument movement used in the Weston "Universal" and "Cine" meters. The "Weston Junior" is expected to appeal particularly to miniature camera users and other amateurs anxious for vest-pocket size without sacrifice of accuracy or dependable operation. It sells for \$15.50.

The new meter has a circular cell-window on one side, designed to cover an angle of view comparable to that covered by the normal camera lens. On the opposite side of the meter is a full vision dial. Thus, when the meter is held in viewing position, the user can take the readings while keeping an eye on the scene he plans to photograph.

Light values as measured by the "electric-eye" are shown by a pointer moving over the lower scale on the dial, which is marked off in 24 divisions. Actually, these divisions correspond to a difference of 1/2 an "f" stop in aperture settings, permitting the close regulation of exposure so necessary in work with color films.

Above the meter-scale there is a convenient "movable calculator band," operated by a knurled knob at the top of the meter. Turning this knob permits rapid determination of all possible aperture-shutter speeds.

Provision is made for 17 film speed ratings from 0.7 to 200 Weston, meeting all present or future requirements of super-speed films. There are 17 aperture stops from f.2 to f.32, and 27 shutter speed settings from 60 sec. to 1/1000 sec. The non-applicable values are con-



sealed under the scale plate, reducing the possibility of erroneous readings.

Sensitivity of the new meter to low light values is such as to provide readings where camera settings down to  $f/2$  and  $1/5$  sec. are required on ordinary film. At the high end the most brilliant beach and snow scenes remain within the meter range without the use of multipliers or adapters.

### New Peanut Flashbulb



A NEW flash bulb no taller than a pack of chewing gum has just been announced by Wabash Photolamp Corp., Brooklyn, N. Y. The new peanut size is designated as Superflash No. 0. Its total light output approximates 22,500 lumen seconds, which is more than ample illumination for open and shut shots with average films, as well as synchronized speed shots with faster films.

Also announced is another new Superflash bulb designed for practically every requirement of press photography and candid camera use. "Special Press 40,000," as this new size is called, is only slightly larger than the standard Superflash No. 1. Its total light output is 40,000 lumen seconds, produced in a wide-peak flash of great intensity and power to penetrate distance and cover wide areas. It is ideal for use with focal plane cameras, such as Contax, Leica, Exakta, etc., since the longer flash peak allows maximum illumination to flood the subject photographed during the full time that the focal plane curtain is travelling across the negative.

### Ball-Bearing Tripod

MIMOSA AMERICAN CORP., 485 Fifth Ave., New York, announces the new Motorial All-Metal Tripod. Both the tilting and panorama movements have ball bearings. All jerking motion is completely eliminated and a movement of the head obtained that is smooth and uniform.

The head also is fitted with a spirit level. There is also provided a full circle scale of  $360^\circ$  for the panorama movement. Tilting goes up to a full right angle on both sides. The tripod handle may be attached either straight or at a slant. Composed of two sections, the Motorial All-Metal Tripod is exceedingly rigid. Weight, 8 pounds; height, 60 inches when extended, closed 36 inches. Price, \$48.00.

### Camel's Hair Brush

AUTHORITIES AGREE that a camel hair brush is necessary in order to rid dust from lenses, cameras, negatives and other photographic equipment. The \$1.00 Dustoff Photo Brush is a handy and compact camel hair brush in dust- and rust-proof nickel-plated case. The camel hair brush spirals up for instant use by merely lifting the cap and twisting the base. Made by the Dustoff Photo Brush Co., 64 West 46th St., New York City.

### Robot Film Winder

THE INTERCONTINENTAL Marketing Corp., 8 West 40th Street, New York City, distributors of the Robot camera, bring to our attention their Robot film winder and measurer. This little instrument will wind Robot, Leica, Conjax, Argus, etc., spools from bulk negative stock with a minimum of bother, and the greatest amount of safety for the film.

While the essential settings are made in the light, the actual winding is done in the dark, and for this reason all controls are simplified. All knobs are large enough



## Do You Want a Thrill?

Show Your Candid Camera Shots

with the **SVE Tri-Purpose PROJECTOR**

Projected pictures have life and realism that prints can never give. The S. V. E. Tri-Purpose Projector projects brilliant LIFE-SIZE screen images from single or double frame film strips or Kodachrome or Duafacolor transparencies mounted in 2" by 2" glass slides. Write today for descriptive folder, "New Thrills From Stills" and name of the S. V. E. dealer nearest you.

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Penn's Values are unprecedented. They march in the van of the photographic parade... and a rapidly growing clientele is glad to acknowledge a service that is friendly, personal and uniquely different.

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2 3/4 x 3 1/4 RB Series B Graflex F 4.5 lens.....	\$ 44.50
3 1/4 x 4 1/4 RB Series B Graflex F 4.5 lens.....	87.50
Rolleicord F 4.5 lens, Eveready case, NEW.....	42.50
Reflexia Twin lens, Reflex F 3.5 Meyer lens.....	
Compur Shutter, NEW.....	31.50
Super Sport Dolly, 2 1/4 x 2 1/4 F 2.9 lens, Compur.....	27.50
Rolleiflex 454 28 Tessar, Eveready case.....	98.50
Contax Model 1, F 1.5 Sonnar.....	148.00
Wulfr, F 2.9 Radionar 1/4 120-Coupled Range.....	
Finder.....	55.00
Dollina II, F 2.9 Schneider lens-Coupled Range.....	42.50
Finder, new.....	35.00
Kodak Retina, F 3.5 Chrome.....	

Above items like NEW except where otherwise specified.

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## For Across-the-Table or On-the-Table Photography . . . the TABLE-TOP POD

Henry Herbert's newest picture-taking aid . . . a lightweight, durable tripod for table use . . . small enough to carry in your pocket, but big enough to do a man's size job. Fit it to any camera. Won't scratch the table, won't slip or slide because the legs are rubber tipped. 6 1/2 inches high and weighs 5 ounces. Beautifully made \$1.75 of all metal with chromium trimming.....

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5 x 7 PRINTS \$5.00.

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## 4 SECONDS

That's all it takes to check still exposures  
with a

Wesco Visual  
Daylight  
Exposure Meter

75c

Thoroughly accurate. Saves film. Makes every exposure count. Pocket-size, fully illustrated, simplified instructions on every meter. Unconditionally guaranteed. If your dealer cannot supply you, order direct, sending dealer's name.

WESTERN MOVIE SUPPLY CO.

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San Francisco

to be found readily, and are placed where you would logically expect to find them.

A dial in the face of the instrument is first set to the length of film that the photographer wants to use. The bulk film is then fed over a protecting guide, under the measuring sprocket, and onto the camera spool. The operator then simply turns the take-up knob till it will go no farther. A built-in knife cuts the film at this point, the bulk film is removed, and the wound roll enclosed in its cassette. That's all there is to it. The photographer decides in advance how much film he wants to wind, and then cuts off just that much.

The ingeniously controlled and positive dial prevents all wastage and spoilage of film. No spool can be overwound, and the danger from fine, parallel scratches attendant on overwinding is eliminated. The photographer knows just how many exposures he can make on each roll. He will not later open the camera to find a quantity of film spoiled because he missed his guess by a few feet, or he will not lose valuable shots because he under-estimated the length of film in the cassette.

A chart enclosed with the winder gives the number of exposures at various lengths for every type of 35mm. camera.

## Daylight Printer

THE MIDGET MARVEL daylight printer and dark box, \$10.00, announced by the Midget Marvel Laboratories, 220 West 42nd Street, New York City, combines the advantages of a changing bag, dark box, etc. It is a compact, portable dark room. With it the photographer may make contact prints, develop film, or load cut film holders and developing tanks anywhere in broad daylight.

The complete set contains fourteen items including trays for developing and fixing and negative and paper



holders. It may be assembled for use in less than three minutes, or conveniently stowed for carrying purposes. The box, made of hard wood, is extremely light and only 16 inches long.

When preparing the box for use flexible light-proof sleeves, through which the worker may insert his hands, are snapped over the open ends of the box, safety glass placed in the front and top windows, and the operating hood placed in position about the top window. By looking down through the safety glass in the top window the photographer can see all that is happening within the box.

The arrangement of the printing process permits, for the first time, easy control in contact printing, while even extremely sensitive X-ray films have been developed behind the safety glass without fogging. Darkening boards that fit into the safety glass holders are included in the kit, and when placed in position make the Midget Marvel absolutely light tight so that the most sensitive panchromatic emulsions can be loaded or unloaded from cameras, film holders and tanks in complete darkness.

### Enlarger Features "Dustless" Negative Carrier

ONE OF the neatest tricks we have recently run into is the negative carrier fitted to the excellent "Ideal" enlarger distributed by the Chess-United Company. Dust, scratches, buckling, are minor photographic bugaboos that suddenly loom larger than life when the print is on the projection easel. The "Ideal" negative carrier goes almost all the way toward eliminating these evils.

The carrier is made of perfectly flat moulded bakelite, fully one-half inch thick. This smooth surfaced plastic will not warp or bend under pressure. Bakelite is one of the best heat insulators so far developed and so the film is kept smooth and entirely free from the harmful effects of "heat crimp". The hinged back construction permits easy insertion of the negative strip, and film travels through the holder in such a manner that only the perforated edges are in contact with the carrier. The film channel is precisely moulded and extends from one end of the holder to the other. This combination holds the film in a perfectly flat plane when the holder is in place and removes all necessity for dust-collecting glass pressure plates.

The elimination of glass plates does away with four unnecessary refracting and absorbing surfaces, and cuts the dust problem down to nil. The emulsion is always free from contact with any surface, and the thickness of the carrier allows a maximum of air to circulate around the film.

The holder is fitted to the enlarger so that the negative may be maneuvered into any position without danger of tearing or warping. The "Ideal" enlarger comes from Czechoslovakia and is designed specifically for miniature film. Carriers are separately available for 35mm., Bantam special 3x4 cm. (half vest-pocket), 4x4 cm. Rolleiflex negatives. Write to Chess-United, Emmet Building, 299th Street and Madison Avenue, New York City, for complete details of the Ideal Enlarger.

### New Agfa Darkroom Outfit

A NEW developing and printing kit has now been added to the Agfa material provided for amateurs who wish to finish their own films. Known as the Agfa Dark-



room Outfit No. 2, this includes three 5 x 7 steel trays covered with white acid-resisting enamel, a stainless steel tray thermometer, two stainless steel film clips, an 8-ounce glass graduate, one glass stirring rod, one 4x6 inch printing frame, a 6-watt Selenium safelight bulb, five M-Q developer tubes, 1/2 gallon size container of acid hypo and an instruction book.

This new darkroom outfit forms a desirable developing and printing set for every beginning amateur who wants an outfit that will serve as the nucleus of his darkroom equipment—to which he can add additional items as he extends his developing and printing activities. This outfit, manufactured by Agfa Ansco Corporation in Binghamton, N. Y., sells for \$4.95.

### Mendelsohn Perfects Synchronization On Speed Gun Attachment for New Automatic Rolleiflex

S. MENDELSON of 202 East 44th Street, New York City, well-known maker of speedgun equipment,

Announcing the

## JUBILETTE

A Popularly Priced 35 mm. Miniature Camera  
(with convenient external shutter release)

for **COLOR**  
**TRANSPARENCIES**  
or black and white pictures



The Jubilette is a new, light and compact miniature camera making 36 exposures on 35 mm. film.

It has the features and the power of a high priced camera and is being put on the market as a result of constant demands for a miniature camera fitted with some of the candid camera essentials at a popular price.

It is equipped with an f2.9 highly corrected anastigmat lens in a compur shutter with speeds up to 1/300th part of a second, enabling you to enjoy the most entrancing advancement of modern photography—Kodachrome in full color—as well as perfect black and white shots of every type, even under poor light conditions.

PRICE **\$35.00**

Leather Zipper Case No. 6A \$2.00

Eveready Case \$8.00

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## KIN-O-LUX 16mm REVERSAL FILM

... because a very moderate cost includes quality that is otherwise unobtainable within the price range of Kin-O-Lux. Ask your dealer for any of the three types, Nos. 1 and 2 in green and red boxes—ideal for outdoors—and priced at \$3.00 and \$3.50 per 100 ft. roll and No. 3, the unique, supersensitive, highly color corrected panchromatic film in the lavender box listed at \$6.00 per 100 ft. roll. Also 50 ft. sizes. Prices include processing, scratch-proofing and return postage.

### SPEEDS

	Day	Nasda	Day	Nasda
No. 1	18°	...	6	...
No. 2	18°	...	12	...
No. 3	28°	24°	80	40

### Eliminate

GLARE—REFLECTION—HALATION  
with

### Marks Polarization Plates

No more glare—no reflections that you wish to avoid—no retouching—no messy chemical methods—if you polarize with Marks Polarization Plates. These improve, moreover, the sharpness and detail of your pictures, enhance the beauty of cloud scenery, provide new and more perfect values in color photography. A specially designed Polarator enables you to attach these plates at the angle of their maximum polarization efficiency. Prices on request.

Send for Booklet MI-6

**KIN-O-LUX, INC.**  
105 West 40th Street, New York



announces that he has perfected a universal synchronizing attachment for use with the New Automatic Rolleiflex.

To achieve accurate synchronization at all speeds up to 1/500 of a second, Mr. Mendelsohn used the magnetic principle in building the timing device. To prevent the possibility of cable release getting in the way of the lens, it was necessary to make a special elbow-type connection.

Dealers and others interested are invited to write for further information.

### New UniveX Telescopic View Finder

A TELESCOPIC View Finder for the UniveX Cine "8" is now ready for delivery. The View Finder attaches to the camera by removing the lens, placing the Finder in position and replacing the lens. A small set screw on the View Finder is then tightened up which brings the View Finder in exact focus. For close-ups a special compensating device is provided so that there is no possibility of cutting off the heads.

The Telescopic View Finder is so designed that the camera can be loaded and unloaded without dismounting the Finder.

### 15-Exposure Films

NEW 15-EXPOSURE darkroom loading lengths of four different Agfa films for 35mm. cameras have been announced by Agfa Ansco Corp. The films are sealed in aluminum containers and furnished with tabs to provide easy loading in the darkroom onto the spool of the camera magazine.

The films in which these new darkroom loadings are available include Superpan, a supersensitive panchromatic material; Finopan, a fine-grain panchromatic film; Infra-Red, a film for special effects like night scenes in sunlight, and Ultra-Speed Panchromatic.

A NEW publication that tells and shows how to use the General Electric exposure meter is now available. Bulletin GED-678 briefly explains the simple operations necessary to use of the instrument in bright, medium, and dim light. The photographer is instructed as to use of the meter for movies or stills, in color, or in black and white. To secure booklet write G-E, Schenectady, N. Y., or ask your dealer.

The G-E exposure meter was displayed recently at the First International Photographic Exposition in New York. It is designed for use over a wide range of illumination levels and is simple to operate. The light-sensitive cell is of the same type which has proved its durability in the General Electric light meter.

### The Abbey Flashgun

THE ABBEY has some features which will appeal to both amateur and professional. The battery case is smooth, satin chrome finish with recessed outlets. The trigger is so located at the base of the battery case that it may be operated by the base of the thumb without removing the fingers from the focusing button on folding cameras.

The shutter tripper is small enough to remain attached to the lens board when the camera is closed. This makes quick action possible. As the trip acts directly on the finger lever, the synchronizer is ready for use on any shutter without special adjustments.

A real novelty in the special filtering reflectors. These are reflectors which are permanently colored and polished; either red or blue-green, partial or entirely colored so that correction for natural color film may be obtained without the inconvenience of filtering and without the absorption caused by filtering.

The usual features of extension cords, centering for different size bulbs and other standard features are available. Write Abbey Photo Corp., 305 East 45th Street, New York City.

## SAVE ON FILM

Load your own 35mm. Cartridges

FOR

- Leica
- Argus
- Contax
- Retina
- Baldina
- Welti, etc.



• Here's good news for you Minicam owners. This new Daylight Film Winder enables you to load your 35 mm. cartridges for as low as 15¢ per 36 exposure roll. Stop worrying about film costs. Make exposures to your heart's content. You just load 100 feet of film into the Daylight Film Winder—and then load your cartridges with any number of exposures you wish—in daylight. Has streamlined plastic case—simple and easy to operate.

See it at your dealers or write to-day  
for Descriptive Folder.

PRICE  
EACH \$10.00

**HOUTZDALE STAMP WORKS**

Houtzdale, Pa.

THE EXPOPHOT, tiny in size and low in price, is a startling new exposure meter.

Featherweight, and small enough to be carried comfortably in a vest pocket, it is extremely simple to use and eliminates all guesswork no matter what film is being used or what the light conditions may be. It needs no case. The meter is read like a book, breast high and not blinking into the sun. This it has in common with the Mini-Photocrop. The reading made, a touch turns the dial to set the reading with the film speed, and all shutter speeds and their proper stops are at once in sight.



Only three unmistakable classes of light need be considered, and three rows of shutter speeds on the dial give the correct exposure instantly for any desired diaphragm. The Expophot is durable and combines high efficiency and ease of operation.

In operation, "f" numbers are read directly off the reflex mirror. A dial on the top of the instrument compensates for film speeds, filter factors, etc.

The calibrations are from f/1.4 to f/16 with shutter speeds from 1/1000th second to 30 seconds.

The Expophot is efficient in dim light and gives accurate readings for exposures as long as 2 seconds at f/8, with, for example, film rated at 20 degrees Scheiner. The construction is such that the meter's angle of view is approximately the same as the normal lens.

Distributor for the Expophot is Photo Utilities, 10 East 33rd Street, New York City.

### New Omega Enlarger

THE NEW Model "A" Omega enlarger, made expressly for 35 mm. film users, by Simmon Brothers, Northern Blvd., Long Island City, N. Y., is a popularly priced, quality instrument.

In this enlarger, the negative holder is designed for maximum convenience in handling strips of 35 mm. film. No lint-collecting glass or metal touches the picture area of negatives at any time, either when making enlargements or when changing frames on film strips. The film can be easily inserted into its track without removing negative holder and then moved from frame to frame without raising lamphouse.

Model "A" Omega makes enlargements up to 16 times linear on the baseboard and, of course, larger on floor. The light-tight cast aluminum lamphouse contains a cool running low-voltage special projection bulb (6-8 volts), which in conjunction with the efficient double condenser illuminating system, permits short exposures on slower enlarging papers. In addition, Model A has a long focusing lever and smooth operating mechanism, is rigidly constructed, practically vibrationless, and the enlarger head is fully counterbalanced.

The Model "A" Omega is available with detachable lens board, factory installed 2" anastigmats, or with adapters for Leica or Contax lenses.

## Bass Bargainingram

Vol. 28. No. 6.

JUNE, 1938

### Bass Says:

Photographers on a postman's holiday to Chicago make the customary calls on the Field Museum, the Adler Planetarium, Maxwell Street, the Stock Yards, and Chinatown and then make a bee-line for the Camera Cross Roads of the World... where they literally waste hours of their precious time inspecting the seductive gadgets in this unique camera shop of ours... for which their "better halves" hate us most genuinely.

*Charles Bass*

President.

## New! smaller Rhamstine Electrophot



Model 10, vest pocket size, 2 1/4 x 1 1/8" thick 4 1/2 oz. For still or cine. With colored ivory case. The newest photo-electric meter on the market ..... **\$10**

### DOLLINA II

Compares favorably in performance with more expensive minicams. With coupled range finder, Schneider Radionar F2.9 lens, Compur rapid shutter ..... **\$49.75**

Everedy Leather Case ..... **\$5.50**

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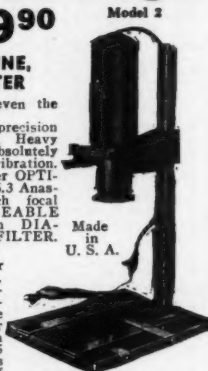
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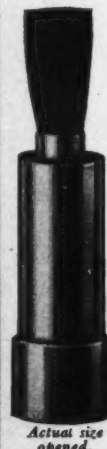
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THE LITTLE Giant Printer is a complete, all-metal contact printer built to professional standards of accuracy and efficiency.

It is heavily constructed, having tempered steel springs, and an excellent trigger control locking device.

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The Whirlpool Washer is scientifically constructed for quick and thorough washing. It is made of a one piece metal outer shell, having a baked white interior with a high gloss finish. The water inlet has five channels at different levels which serve to keep the water in constant motion. The drainage valve can be opened or closed by finger motion and has a baffle plate to prevent clogging. The sleeve valve with the spinning at the bottom permits the heavier hypo-laden water to drain off first, making for quicker and cleaner washing. Price, \$5.00.

The above items are obtainable from Medo, 15 West 47th Street, New York.

## "Handi-Slide" For Projection

HENRY HERBERT offers the users of 35 mm. projection transparencies a handy little gadget in "Handi-Slide."

Handi-Slides are ready made glass projection slides bound in red bakelite and copper. The slides are especially useful in preparing color pictures for projection.

In use, the transparency is merely enclosed within the two plates of polished glass. The plates are then bound in the bakelite frame by a copper sheath, and the slides are ready for projection. The transparencies may be instantly removed when desired, and new ones inserted. The film is fully protected while it is in the slide. Users of Handi-slides will probably find them more economical than the conventional hand-bound plates. Handi-slides sell for \$1.50 per dozen. For complete details write to Henry Herbert, 483 Fifth Avenue, New York City.

G. GENNERT, INC., New York, is introducing in America the Coronet "Vogue" Candid Camera. The camera is beautifully streamlined. Ready for action in an instant, it has a bakelite body. All metal fittings are chromium-fitted.

The Coronet Vogue is fitted with patented /10 Every-Distance Lens (Patent No. 377036). Ever-set instantaneous and bulb shutter and brilliant direct vision viewfinder.

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MADE OF die cast vulcanite, the ELKAY Adjustable Tank is completely resistant to acids and bases of photographic solutions. It takes cut film, film pack, and plates with equal ease, and is adjustable to four negative sizes . . . 6x9 cm, 3 1/4 x 4 1/4 inches, 9x12 cm, and 4x5 inches. The negative holders are made of stainless steel.

The films are loaded into the holders and the tank covered. All the subsequent operations are carried out in full daylight. The developer is poured in through the top, special channels carrying the liquid down the inside edges of the tank. A plug in the bottom of one side empties the tank rapidly and completely. The inside bottom is gently sloped so that all the liquid drains without tilting or turning the tank. Wash water and hypo are introduced in the same fashion. The final washing is carried out with the cover removed. The tank is first filled with water and the base plug is then



withdrawn. If the size of the influent stream is matched with the speed of the drain, the tank is always filled with fresh, rapidly circulating wash water.

A dozen negatives of any single size may be loaded at one time. The tank is priced at \$6.50. For complete details write to ElKay Photo Products, 303 Washington Street, Newark, N. J.

**HENRY HERBERT**, 483 Fifth Ave., New York City, offers a set of two visual monotone filters, designed to give the photographer a better idea of what the total relationships will be in his finished print. A picture often is spoiled because the bright natural colors of the subject can not be visualized as they will appear in the black and white print.

The set which makes these failures unnecessary is called the **HERBERT VU-FILTER SET**. It consists of two cemented glass filters bound like pages of a book, in a compact leather case. The green disc is used for panchromatic emulsions.

The scene should be viewed through the blue filter when there is orthochromatic film in the camera. Write to Henry Herbert for more information, 483 5th Ave., New York City.

#### Du Pont 16 mm. Regular Pan

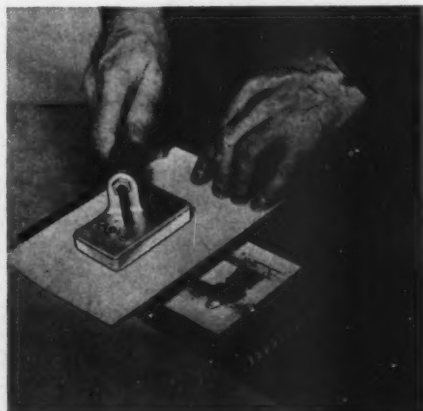
**REGULAR PAN**, 16 mm., is announced by the Du Pont Film Manufacturing Corp. as a new reversible panchromatic film for the amateur 16 mm. market. The list price of this new film is \$4.50 for a 100-foot daylight loading spool, including processing.

Like all Du Pont panchromatic emulsions, *Regular Pan* has a color sensitivity that closely approximates that of the human eye. Consequently, it will be possible to use filters with this film with only a moderate increase in exposure, and to take indoor movies. Since *Regular Pan* is approximately one-half as fast as the familiar Superior Pan, the use of it indoors will necessitate having about twice as much light. For ordinary shots outdoors, this film will faithfully record tone values exactly as they occur in the subject being photographed. *Regular Pan* is a non-halation film, so that the ordinary fuzziness surrounding the image of bright objects is eliminated.

The Negative and Positive Print method of processing Superior Pan will not be used with this new film. Rolls of *Regular Pan*, when returned to the manufacturer, will be processed by the Du Pont Reversal Method, which automatically corrects exposure errors of considerable magnitude.

#### New Dry-Mounting Tissue

**FOTO-FLAT**, new method of mounting prints, was presented for the first time at the recent International



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The Pilot "6" has five shutter speeds, as well as time and bulb. You simply can't miss with this inexpensive, compact little camera!

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- 75mm f/1.9 Hektor for Leica. 87.50
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out pressure and with the low heat of an ordinary electric iron. Foto-Flat comes in all sizes from 1¼" strips for 35 mm. prints, to 16x20" sheets and rolls 16 inches wide by 100 feet long. Seal, Inc., of Shelton, Conn., are the manufacturers.

No special equipment is necessary. You may utilize the family electric iron, or you may avail yourself of the special inexpensive Foto-Welder furnished by the makers of Foto-Flat. In any event, you need no "extra" pressure . . . just the low heat of an ordinary electric iron is all that is required to fuse your print to the mount.

In using Foto-Flat, merely touch the edge of the iron to the membrane, thus lightly fusing it to the under side of the print. This slight heat application should be applied to the entire under surface, thus making membrane and print a single unit so that trimming may easily be effected . . . Next place the trimmed unit in position on the mount or album page. Cover it with a thin piece of scrap paper and apply the iron, being careful that all parts of the print are heated. That's all there is to it!

### A New Top Grade 8 mm. Movie Camera

THE NEW Paillard-Bolex 8 mm. motion picture camera provides all facilities for the making of amateur movies which feature all characteristics of the theatrical screen. Fades, lap dissolves, animation, slow motion, superimpositions, in fact, all of the "tricks" of Hollywood. Cameramen in now possible through this BOLEX "professional" eight. The camera features a three lens turret, automatic threading, parallax correction, visual focusing and every refinement known in the making of personal movies.

Aside from its extreme versatility, it is exceptionally economical to operate, using, as it does, the double eight film.

The new Paillard-Bolex is the only 8 mm. movie camera on the American market which provides the amateur with means to give his personal movies all features known in the production of Hollywood features. For this reason it is known as the "professional" eight. Made by E. Paillard & Cie., of Ste. Croix, Switzerland, precision instrument makers since 1814. It is said by the distributors, American Bolex Company, Inc., 155 East 44th Street, New York, that this camera is the most versatile and highest type 8 mm. camera available.

## BOOK REVIEWS

**PHOTOGRAPHIC HINTS AND GADGETS**, by Fraprie and Jordan, 332 pages and nearly 500 illustrations. *The American Photographic Publishing Co.*, Boston, Mass. Price \$3.50.

Hundreds of enthusiastic experimenters have brought their knowledge together for this book's pages. There are descriptions, data, diagrams and examples of photographs which show you just how to construct and understand everything from trifling gadgets to complete cameras. Short cuts, labor-saving devices, and ways of stretching a dollar are included. A myriad collection of practical knowledge. The photographer need but thumb the index for an answer to his particular problems.

**PHOTOGRAPHIC FILTERS AND HOW TO USE THEM**, by Count H. C. A. Von Schoenfeldt, 70 pages with 18 full page pictures. *Ver Halen Publishing Corporation, Hollywood, California.* Price \$1.75.

The author does not go into lengthy description of every filter known—but confines his

material to color filters, explaining why he uses them constantly. The filters described in the book are standard equipment. Exposure factors are charted neatly for the reader—suggestions are given for particular types of subject matter; explanations are listed in complete fashion under each full page illustration, and finally, the author devotes a full chapter to color photography and its technique in relation to filters. A well-planned book, covering such subjects as Shade, Water Scenes, Interiors, Portraits, Landscapes and Action pictures. This book is written to help the amateur and professional photographers who want to take good pictures under all conditions.

## ??? QUESTIONS ??? to the Editor

**Q.** An ordinary enlarger can be used for copying, I have heard. How is this done?

**ANS.** Excellent results are obtainable by using an enlarger for copying. The enlarger simply is used as if it is a camera. The object to be copied is placed on the easel and an unexposed negative in the negative holder. The subject is illuminated by one or two external lights.

If there is no shutter in your enlarger lens, use a lens cap, or simply turn the lights on for the predetermined number of seconds and then turn them out.

Any film may be used and the film is developed as usual. It is a good idea however, to use process film for copying, and then operations may be carried on under the safelight. If panchromatic film is used, the loading and unloading of the film into the enlarger naturally will be done in total darkness.

Enlarger negative holders are seldom light-tight so before proceeding it is a good idea to cover the holder slots with adhesive or Scotch tape.

Exposure time is determined just as you decide exposure for a camera. If in doubt, make a test exposure covering successive strips of the subject so that the negative will be exposed 1 second, 2 seconds, 4 seconds, etc. The subject should be lit evenly, preferably by means of one light on each side.

Focusing is accomplished as follows: A sharp negative, or one with several cross lines cratched on it, is placed in the negative holder and focused on the paper-holding easel to the size of the subject to be copied.

The print to be copied then is placed in the easel. The enlarger light, naturally, is not used at all. The unexposed negative is placed in the enlarger negative holder. The subject then is illuminated by one or two flood or mazda lights and proper exposure made.



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The Omega Enlarger gives better, cleaner enlargements than you ever had before—and with much less effort. There's a long focusing lever for operating convenience, and rigid construction that prevents vibration. Model A Omega is made expressly for 35 mm. film. Special dust-proof negative carrier takes strip film without removing holder or raising lamp-house. Enlarges 16 times linear on baseboard. Cool running low-voltage projection bulb. Uses A.C. only. Equipment includes giant, red focusing filter.

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## LENSES

AND ABERRATIONS

By

H. C. McKAY, F. R. P. S.

**N**O instrument of comparable delicacy suffers the abuse accorded the average camera. A lens, in one day, may expect to be scratched with a coarse handkerchief, jarred in carrying, taken apart for cleaning, and moved out of adjustment.

A lens should be kept clean—with Japanese tissue obtainable at your camera store—but it should not be taken apart. Even as much as the front or rear element should not be unscrewed unless absolutely necessary.

There is no sense in paying \$100 or more for a superfine "handful of glass and spoonful of metal" and then letting the lens perform like a \$10 one.

What is commonly known as a "lens," strictly speaking, is an "objective." Physicists think of a lens as a single piece of glass. The combination of pieces of glass, or lenses, in your camera, then is an "objective."

We ought to be precise and say "objective," but because "lens" is more common and has the advantage of brevity, we prefer to say "lens."

### Resolving Power

The resolving power of the lens is measured by the spacing between the finest line which can be reproduced as *two lines* by the lens. As we crowd fine lines closer and closer together we finally get them so close that the lens cannot separate them, and instead of a series of lines, a rectangle of uniform tint is obtained. The theoretical resolving power of the photographic lens is determined by an optical formula:

$$\frac{W}{D}$$

This formula is the wavelength of the light (w) divided by the diameter of the true effective aperture of the lens (d). As we almost always use panchromatic film



at the present time and often by artificial light we should accept 750 mm. as the wavelength of light. The quotations obtained by this division indicate the decimal fraction of the degree subtended by the two lines. However, as most of us would prefer to get the linear value of the resolving power rather than the angular value we may use the following formula which gives the actual diameter of the image of a point original. (It must be remembered in optics a point has no breadth.) The diameter of the image of a point indicates the true limit of the lens and degree of error. This formula is:

$$R = \frac{S \times W}{f}$$

This means that the resolving power is equal to the distance from the lens to the film, (s), multiplied by the wavelength of light (w) and the result divided by the actual diameter of the working aperture in inches. The result will be the fraction of an inch indicating the resolving power of the lens.

To test for resolving power, the subject photographed is a group of figures with lines running in every direction. The various distances between the lines are measures in terms of fractions of the lens' focal length.

### Astigmatism

Astigmatism is a fault extremely difficult to correct, yet one which is found in all lenses which have not been specifically corrected for the error. Because of irregularities in the structure of the glass itself and the effect of such irregularities upon the refractive index of the glass, the focus of rays passing through different parts of the lens is not uniform. The usual condition seen is that vertical and horizontal lines cannot be sharply focussed at the same time. Obviously any compromise focus will diffuse both of them. This test is not always satisfactory because there are times when the astigmatism is in the oblique direction instead of in the vertical or horizontal.

The test for astigmatism consists of lines drawn at various angles. A lens which is absolutely free from astigmatism will reproduce all of the lines with equal sharp-

For the first time at  
this amazingly low price



The

## HANDI-VU-FILTER SET

\$2.00

Equal in every respect to similar sets at much higher prices, the Handi-Vu-Filter Set offers two visual monochrome filters, designed to give the photographer a better idea of what the tonal relationships will be in his finished print. Hold the filter up to your eye and you see the scene with the color translated to the equivalent of black and white tones. The two glass filters are bound like the pages of a book in a compact leather case. The green filter is for panchromatic emulsions . . . the blue for orthochromatic emulsions. For outdoor and indoor shots, movies or stills. An invaluable aid to better photography.

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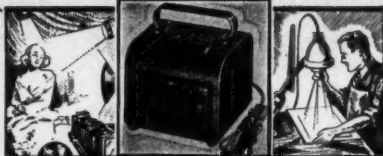
Voigtlander Brilliant, F4.5 Skopar, Compur.	\$ 19.99
Robot F2.8 Tessar, Everready case.	\$ 59.99
Half V. P. Pupille F3.5 Leitz Elmar, Compur.	
Pouch case	49.99
Leica G. F.2 Summar, Everready case	122.50
Contax II F.2 Sonnar, Everready case.	\$149.99
Contameter for Contax II.	39.99
Contaflex F1.5 Sonnar, Everready case	205.00
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Compur, Coupled, New type	41.25
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ness, but it is really unusual to find a lens in which absolutely no difference can be found.

### Flatness of Field

The normal field of photographic lens is a section of a sphere, that is to say, the negative in a camera should really be bowl-shaped. As this is obviously impractical, the photographic lens receives special correction to make the field flat. When this correction has not been fully carried out, the center of the picture will be sharp while the corners are diffused. As this is a condition which also occurs with the lens of insufficient covering power, it should be checked by focussing so that the corners are sharp. If a negative can be made which gives the picture sharp at the corners and diffused in the center as well as the reverse of this condition, the error is very definitely one of flatness of field. This is one of the two errors which can be reasonably laid at the door of the manufacturer, and it is one rarely found.

### Spherical Aberration

The normal lens made of glass or similar transparent material will focus it's marginal rays nearer to itself than those which pass through the center of the lens. This is a condition which gives an image of increasing diffusion with each larger diaphragm opening. If a lens cannot be sharply focussed wide open, but can be made to give a very sharp image when it is stopped down to its smallest opening, then there is every reason to suspect the existence of spherical aberration.



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safe). Comes ready to use with flexible cord, immersion electrode, complete instructions and 5-year guarantee.

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As spherical aberration is corrected by the same fundamental means as color error, a lens which has been subjected to strain may suddenly develop both chromatic and spherical errors.

### Zonal Aberration

Sometimes the rays which pass through the margin of the lens and those which pass through the center of the lens are brought to a single focus, while rays passing through an intermediate portion or "zone" of the lens come to a focus at a different point. This is a condition known as zonal aberration. In optical testing laboratories tests for spherical aberration are usually made in four or more zones and a graphic chart constructed in the form of a curve showing the exact degree and nature of any spherical error which may exist in the lens.

Tests for zonal aberration may be made by cutting paper masks to cover the lens. The mask can be cut out in the shape of a circle about  $\frac{1}{8}$  of an inch wide. If this were made complete, naturally the central portion would drop out, so to hold it in place three narrow strips of paper are left to support the central stop in its proper relation to the outside area of the mask. A series of these masks, four or five or six in number, are made to cover the various zones of the lens.

Obviously the central zone does not have any center spot but is merely a circular aperture cut in the paper and with the diameter not greater than  $\frac{1}{4}$  the diameter of the effective aperture of the lens. The iris diaphragm of the lens is left wide open and exposures are made through these various concentric diaphragms. Comparison of the negatives will show the existence of zonal aberration.

### Comma

Comma is a specific type of spherical aberration, it being the spherical aberration of oblique rays. The effect is that a circular object so placed that its image is formed near one edge or in one corner of the negative, is not reproduced as a perfect circle but will have a shape which

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may vary through any form from an egg shape to a definite comma shape.

#### Chromatic Aberration

Chromatic aberration is the fault of a lens which causes it to bring the blue, the green and the red to different foci. Obviously when we are working with panchromatic film which is sensitive to all visible color, such a condition results in the formation of one sharp image, one definitely unsharp image and one which may be one or the other.

Not many years ago when the first  $f1.9$  lenses were introduced to the motion picture industry, the cameraman always examined his focussing glass through a blue filter. The reason was that with the extreme aperture of the lens the color corrections, had, at that time, necessarily, to be neglected. The result was that only the blue image and the blue-green could be sharply focussed. Focussing this lens visually would always give an out of focus picture, because the visual focussing is done for the green and the photography is done with the blue, which would give the out of focus result.

One of the early  $f.2$  lenses introduced for miniature camera work was so deficient in its corrections that while it gave excellent results by artificial light (minus blue), it would not make a usable negative by daylight.

Fortunately the question of color error or chromatic aberration is one of academic interest only because practically all photographic lenses are now so satisfactorily corrected for color that they not only give good results with panchromatic film but almost without exception they may be used satisfactorily for making direct color transparencies and making color separation negatives.

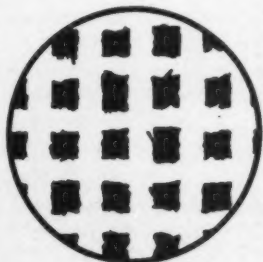
The McKay Photographic Test Chart (\$2.50) is designed to make the above lens tests. This chart, 15 by 20 inches, in color, is pinned up in front of the camera, and an exposure made as usual. The chart with a 16-page booklet describing how to use it to make your own tests is obtainable from the publishers or from the MINICAM Book Department, 22 East 12th St., Cincinnati, Ohio.

# BUILD IT Yourself

## "BUILT-IN" ENLARGING FOCUS

MANY is the hour wasted under enlargers in attempts to focus dense negatives or to use time-consuming devices such as focusing with one negative and then printing another. Many is the print, too, that is fuzzy because of inexact focusing.

For the sake of speed and accuracy, nothing compares with the use of a focusing grid which has been made a part of the negative holder.



• Focusing Grid.

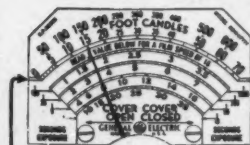
A piece of dense negative, say about an inch square, has a number of criss-cross scratches made in the emulsion with a sharp needle, or with the point of a

sharp knife blade. Along these scratches the emulsion is entirely removed, and there results a transparent grid whose lines have very ragged edges.

This grid is cemented over a small hole, say about one-quarter inch in diameter, cut in the negative mask, as close to the negative as possible. If a miniature negative is used, the conditions are somewhat different, for the negative is either held between plates, or placed flat upon a metal plate, as in the Leitz enlargers. When the negative is held between glass plates, the grid is cemented to one of the plates, as close to the negative as possible, and a small hole cut in the metal mask immediately below the grid in order to permit the light to pass through to the lens and easel. If the negative is held against a metal plate, a small hole is cut in the metal plate and the grid cemented over it, as close as possible to the negative. It will be noted that in each case mentioned, the grid is placed beside the nega-



Stand at the camera and point the exposure meter directly at the scene or subject. Open the hinged cover.



Instrument now indicates 15 foot-candles.

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1/25 second opposite film speed 8



(f) stop opposite 15 ft-c is (f) 2.5

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With 1/25 sec. film speed 8, set as above. OR, select desired (f) stop and set foot-candle reading opposite it. Then, read time opposite film speed.

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Takes all sizes of negatives from 35 mm to 2 1/2 x 3 1/2 inches, and equivalent sections of negatives up to 4x5 inches. Enlargements 2 to 5 times on baseboard. New book type carrier with curved supports. Can also be used as contact printer.

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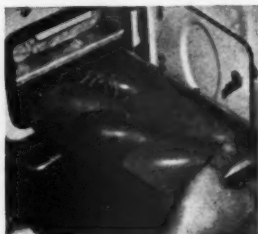
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tive—in the plane of the negative.

As a result, beside the image upon the easel there will be a large, bright image of the grid, with very rough edges. It is very easy to focus sharply, whether the diaphragm opening be large or small. With or without a magnifying glass, the eye can tell with ease when the ragged edges of the image are as sharp as the lens will make them.

### Cooler



Toy rubber balloons filled with water and frozen in a refrigerator compartment provide handy non-diluting cooling units. When melted, the balloon and contents is replaced in the refrigerator, to be frozen and used again.

### Film Dryer

This film dryer will accommodate from one to six roll films and can be built in about the same time it takes to spot out the specks on the prints made from one roll of films which



have been allowed to dry where dust can reach them.

The frame work is of quarter inch by one inch redwood, about six inches longer than the longest film. The top and bottom are of one-inch material. Small hooks are screwed into both, the top ones supporting wide stainless steel clips which hold the film. The smaller clips at the bot-

tom are fastened to the hooks with rubber bands. The films are therefore taut, and will not dangle against their neighbors, even if a powerful fan is turned on to expedite drying. The covering is a lintless gauze from the five and ten, and is tacked in place. To strengthen the gauze and prevent fraying a thin glue was brushed all around the upper and lower edges, and wherever the cloth came in contact with the framework.

If the films are placed in front of a heater, electric fan, or a strong draft, to speed up drying, be sure to remove all surplus water drops, or the dried film may show marks.

Ralph Haburton.

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## Developing By Desensitization

**B**EFORE the advent of super-fast emulsions, sensitive to all colors that necessitate development in total darkness, *development by inspection* was a fine art. Then the photographer, professional or amateur, would develop each individual exposure to a nicety that each film required. No two film would come out of the developer at exactly the same time. The contrast and density for each negative was attuned to the speed of the emulsion, exposure, type of developer used and lighting conditions.

The desirable method of developing by inspection with a darkroom safelight, and seeing the image built up bit by bit until final density is reached can be utilized with even the fastest panchromatic film such as Eastman Super X, Agfa Ultra Speed, Agfa Superpan and Dupont Superior. These can be developed by an ordinary red darkroom safelight such as Wratten No. 2 or Agfa No. 107, if the



● When a desensitizer is used, the progress of a film's development can be conveniently watched under a safelight.

film first is **DESENSITIZED**.

The film is first immersed in desensitizer in total darkness and then trans-

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ferred to the developer, where development can be continued by a weak white light or brighter red light.

By cutting up a 5-foot length of 35 mm. film the developing time of individual frames can be varied to meet the requirements of differences in lighting, subject matter and exposure. The procedure is to start developing the entire roll of desensitized film. After developing for about a quarter of the full time the film is unreeled and cut into convenient lengths (5 or 6 exposures to a length); the developer is poured into an 8 x 10 tray, and development is continued by inspection. Each individual strip can be developed to its own required density.

A 10-watt carbon filament bulb used 8 to 10 feet from the tray or tank, or an amber safelight such as the Eastman 00 or Agfa 105 for chloride papers can be used for developing orthochromatic and all ordinary emulsions. An enlarging safelight such as Eastman O or OA, or Agfa 104 can be used for all fast and ordinary panchromatic emulsions. A Wratten safelight 2 or Agfa 107 can be used with safety to develop all high-speed red-sensitive panchromatic emulsions.

The three best known desensitizers are Pheno-safranine, Pinacryptol Yellow and Pinacryptol Green. The Pinacryptol Green is the most practical, because it can be used with all emulsions.

I have had good results for many years with Agfa Pinacryptol Green. It can be purchased as a dry powder or in concentrate liquid form. The formula and procedure for both is as follows:

PINACRYPTOL GREEN STOCK SOLUTION.		
Pinacryptol Green (dry powder)	Metric 1 gram	Avoid. 15 grs.
*Water to make	500 cc.	16 ozs.

\*Use of a 50-50 water-alcohol mixture for solution will prevent fungus or bacteria forming in the stock solution and will improve the keeping qualities of the desensitizer.

For use dilute one part of desensitizing stock solution with ten parts of water. This solution can be used repeatedly until it is used up by absorption. Immerse the film in total darkness for 2 minutes at

65°F. or 18°C., then after a rinse in water the film is immersed in developer and the darkroom safelight is turned on to continue development by inspection.

The same stock solution may be used if preferred, directly in the developer, in the following proportion:

Desensitizer .....	1 part.
Developer .....	30 parts.

After two minutes development in total darkness continue to develop by safelight as above.

The judging of a negative during development requires a little practice. At first glance it will appear to be a dense black, but this is because it has not been fixed. The negative is judged by its overall density.

For those who don't wish to mix their own, prepared liquid desensitizer can be purchased.

Popular desensitizers include Agfa (Green), Burrows Wellcome, Marshalls, Desensol and Rapid Desensitizer No. 107.

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For the best ten photographs taken with any Argus camera, MINICAM MAGAZINE will pay \$5.00 each. Pictures to be entered in this contest must be entered between June 1st and July 31, 1938, and must be addressed to "Argus Contest Picture Editor."

There are no tabus. Any subject is suitable. Submit prints only (no negatives) in any size over four by five inches. Do not submit contact prints.

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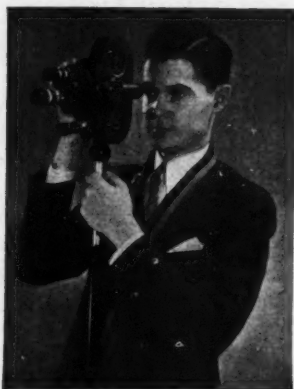
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## PHOTO-GRAPHORISMS

*By V. E. Christel*

Spare the tripod and spoil the shot.

\* \* \*

Honor thy finder and thy meter.

\* \* \*

There's many a slip 'twixt the pose and the click.

\* \* \*

A soft cleanser turneth away dust.

\* \* \*

Fine grain does not necessarily make fine photos.

\* \* \*

One beginner can ask more questions than seven professionals can answer.

\* \* \*

The lens is mightier than the word.

\* \* \*

The hand that rocks the developing tank is the hand that reveals the world.

\* \* \*

Emulsion is thicker than water.

\* \* \*

Many lenses make light work.

\* \* \*

Greater love hath no fan for this; that he lay down his last dime for hypo.

\* \* \*

An ounce of preparation is worth a pound of blur.

\* \* \*

Sweet are the uses of accessories.

\* \* \*

It's a double exposure that has no turning.

\* \* \*

A photographer is known by the negatives he keeps—and throws away.

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# MINICAM'S Cinécam

A MONTHLY DEPARTMENT OF IDEAS FOR CINEMA-MAKERS

## TITLE

AS YOU GO

By Van Vleck

"ON location" titling not only is a "natural" for travel cinemas, but is equally effective for the home studio movie.

One of the first things a professional film gives you is the locale. When a skyscraper skyline is flashed on the screen, you know action is about to take place in a metropolitan city. In the same way, a characteristic scene of Middletown, for example, will locate your scene of action, and a closeup of a signpost reading "Main Street" will still further identify the locale.

Consider how much more effective a night shot like "Reno, the biggest little city in the world," than any hand-drawn title. The next one shown, "Mt. Vernon," is enhanced by the use of hands.

A sign may be hand-made on location, as was "Gulf of Mexico." Writing on the sands of time achieves real permanence when focused on celluloid.

The bottom photograph, "No Fishing," illustrates the use of a sign to furnish locale. The contrast between the "No" on the sign and the row of fishermen adds the fillip of humor.

Shoot signs and see how effectively they will become titles, sub-titles and local atmosphere in your productions.





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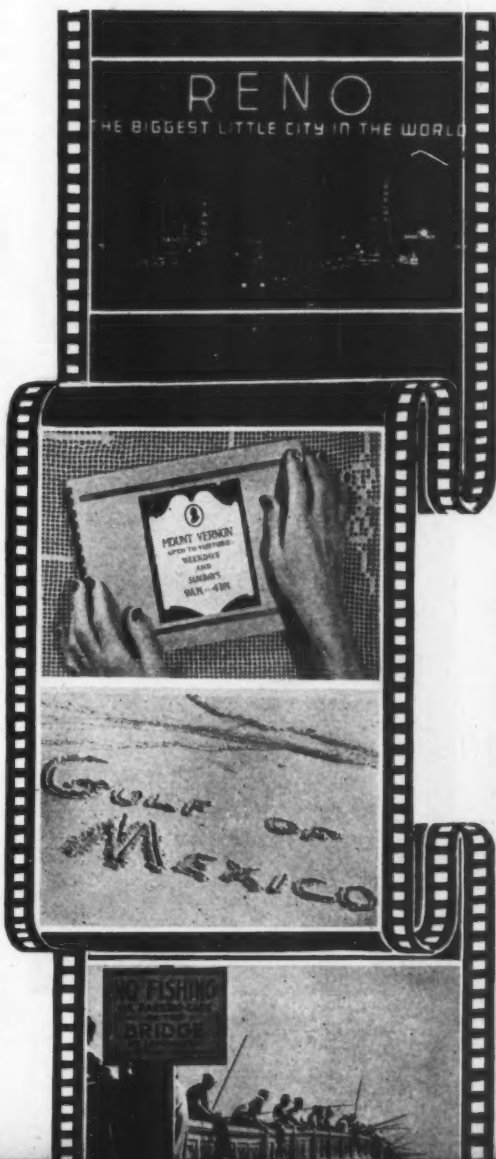
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# WHAT CAMERA -- 8 or 16 mm?

By Herbert C. McKay,  
F. R. P. S.



With the right camera it is easier to make an interesting movie than to make an interesting still picture.

WITH his power to present things in motion, the movie cameraman has a flying start over "still" competition. Action, drama, story-telling power—the things for which the print maker strives so mightily—all are waiting at the beck and call of the movie maker.

A movie has something which no still possesses: motion. This quality breathes life into every moving picture. Action automatically imparts interest.

In the selection of a camera, the first problem is film size. Shall we buy a 16 mm. camera or an 8 mm.?

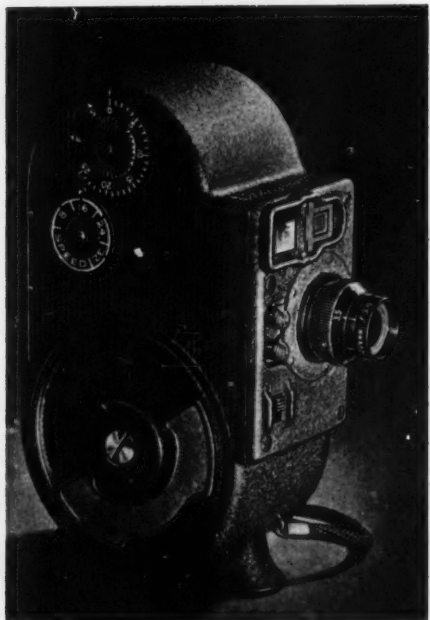
About 15 years ago when the 16 mm. camera was first introduced the only practical size was 35 mm.—the standard professional size. Those using 35 mm. greeted the "pint size" 16 mm. film with undisguised ridicule. They stated flatly that it was impossible to do anything with such an insignificant ribbon of film.

In ten years, however, this "insignificant" celluloid ribbon has been adopted for educational and industrial purposes and for practically every motion picture use except professional theatrical productions.

Now, in some quarters, the 8 mm. is being looked down upon in the same fashion, and with as little cause.

There is no reason why the eight millimeter should not be accepted and used, and be thoroughly satisfactory for everything except the most advanced type of work.

The standard motion picture film is 35 millimeters wide or about  $1\frac{3}{8}$  inches. This is the width of the celluloid ribbon and



• The Emel 8 mm. Camera (top).  
• Bell & Howell (bottom) Filmo 8.

not the picture size. The 16 mm. ribbon is roughly about  $\frac{5}{8}$  inch wide or a little less than half as wide as the 35 mm. The 8 mm. is about  $\frac{5}{16}$  wide or half the width of the 16 mm. film.

In the 35 mm. film, each individual picture, or "frame," measures slightly less than  $\frac{3}{4}$  inch by 1 inch. In the early days it was considered quite a marvel that such a small picture could throw a 10-foot image on a theatre's screen. No wonder the first 16 mm. film was ridiculed with its little pictures about  $\frac{5}{16}$  by  $\frac{7}{16}$  inches! ( $7\frac{1}{2}$  by 10 mm.) And no wonder the first 8 mm. film cameras were held suspect, taking a picture not much larger than  $\frac{1}{8}$ th by  $\frac{3}{16}$ th inches!

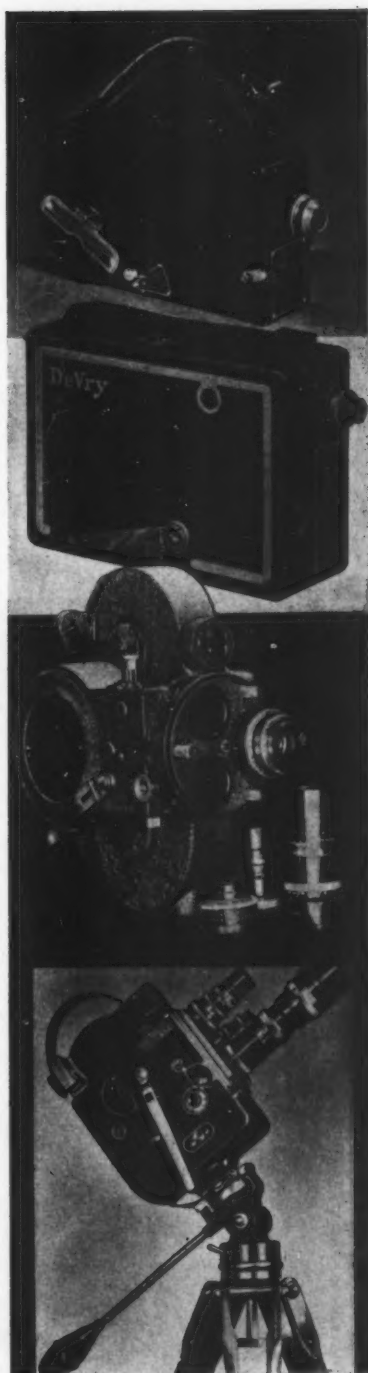
For the beginner, the first fundamentals of motion picture work is that the motion picture is not a "moving" picture, but a series of still pictures. These pictures on a strip of film are projected upon a screen in such rapid succession that the eye does not see the intervals of darkness between any two pictures. The eye sees only the change from picture to picture and the mind interprets it as motion, due to the slowness of the eye's reactions. This is termed "persistence of vision."

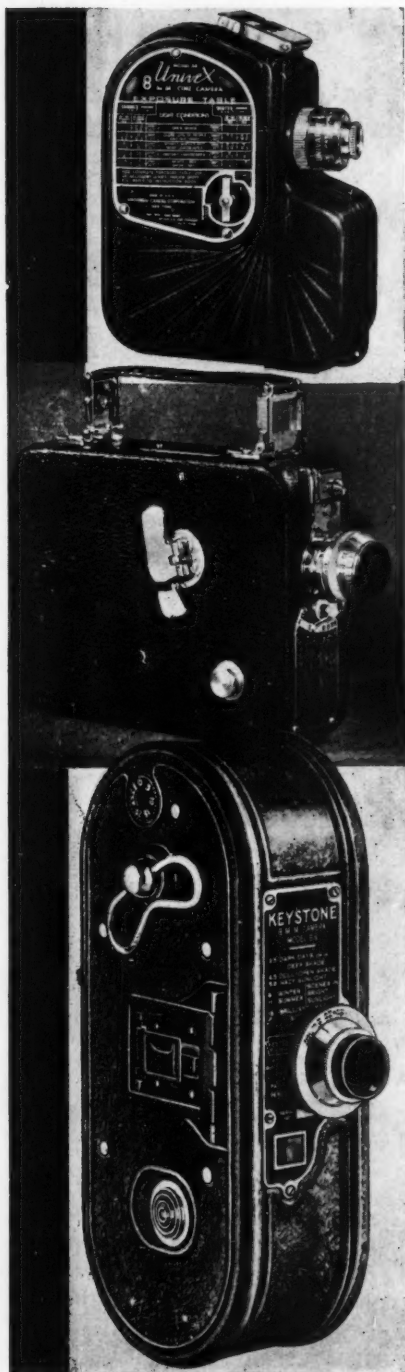
The 35 mm. film has 16 pictures or "frames" per foot of film. The 16 mm. has 40 frames per foot, the 8 mm. has 80 frames per foot.

In making and projecting motion pictures, the projector is run at the same speed as the camera to accurately reproduce the action. Thus, the actual capacity of a length of film is not its length, but the number of frames it contains. Thus, five feet of standard theatre film (35 mm.) will occupy exactly the same length of time on the screen as two feet of 16 mm. film, or one foot of 8 mm. film.

The standard motion picture unit of length is one reel. One reel of film, of any size, occupies  $16\frac{2}{3}$  minutes when projected at the rate of 16 frames per

- Some 16 mm. cameras, top to bottom, Cine Kodak Model B; Devry; Victor; Bolex. The 16 mm. is recommended for amateur theatrical productions, color work, sound movies and where relatively large audiences are to be addressed.





second. This is the standard speed for normal action for all cameras, or at least used to be, until the advent of sound film caused professional studios to adopt 24 frames per second as their standard speed.

A reel of 35 mm. film contains 1,000 feet of film. The reel of 16 mm. film contains 400 feet. The 8 mm. reel contains 200 feet of film.

The 8 millimeter film costs slightly more than half as much as the 16 and the completed film occupies less than half of the space of the 16 while it is perfectly adequate to give a brilliantly illuminated picture on a screen 30 by 40 inches. In the matter of the black and white picture, unless the original has been made by one of the extremely costly cameras, it is impossible for spectators to state with certainty whether the film is 8 mm. or 16 mm. The sharpness and definition of the smaller size is completely satisfactory. Therefore, for ordinary routine or straight shooting, 16 mm. has little to offer over the 8 for home film, while the saving in film cost will amount to a great deal in the course of a year.

Those who wish to work with sound are at present restricted to work with 16 mm. While it is possible to record sound at the time of making the pictures this is not advisable for technical reasons. The amateur talking picture is usually made silent and the sound is added afterward by a service laboratory.

Amateurs who are primarily interested in sound, or in dramatic productions, should plan on using a 16 mm. camera of semi-professional grade, but with these exceptions the 8 mm. camera can be purchased with every expectation of satisfaction. For presenting color to relatively large audiences, the 16 mm. has advantages over the smaller 8, but for home audiences the 8 is capable of color as well as black and white presentations.

**A**MONG the available 8 mm. cameras there are three models of the Cine-

● Some 8 mm. cameras, top to bottom, Univex, Eastman Cine Kodak, and Keystone. For most amateur work, 8 mm. is selected for economy.



Kodak. These are similar in external appearance, the principle difference being that the most costly is equipped with an  $f1.9$  lens interchangeable with a telephoto lens while the two lower priced models are equipped with non-interchangeable lenses of  $f3.5$  and  $f2.8$  aperture respectively.

The finder is incorporated in the carrying handle which folds down flush with the top of the case when not in use. The diaphragm is controlled by an extension lever which gives adequate motion for each change of stop; and these changes are coupled with an exposure table secured to the front of the camera. The footage indicator is visible on the right side of the camera which also carries the winding key and release button.

The Bell and Howell Filmo Eight is the smallest 8 mm. camera using interchangeable lenses permitting the use of telephotos. It is all metal, extremely compact, and can be carried easily in an ordinary pocket. Finder masks for the various lenses are built in. The Filmo is the smallest high quality "8".

The Keystone camera is similar in shape to the Bell and Howell but somewhat larger and is made of stamped metal rather than cast. The fact that Keystone at its low price has interchangeable lenses, and normally is equipped with an  $f3.5$  lens recommends it to those who wish a flexible though inexpensive camera.

The Univex, selling at less than ten dollars, also has the interchangeable lens feature so that not only may the  $f1.9$  lens be utilized, but the telephoto lens can be used to very good advantage. While some consider a camera at this price to be impractical, the pictures made with the Univex camera and projected on the projector which is a companion to this camera are of surprisingly satisfactory quality.

The Emel camera is the latest introduction to the amateur motion picture market of this country, and verifies a prediction which the writer made somewhat more than a year ago. Although designed for 8 mm. film, it is in many respects a truly

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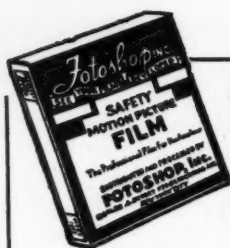
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semi-professional camera. It is equipped with a turret front for three lenses and carries on the outside of the case an even more elaborate exposure chart than most motion picture cameras. It is equipped with a masked finder in the center left side.

The Emel has a single exposure device and has a full range of speeds from 8 to 64 frames per second. Provision is also made for reversing the film with a hand crank so that the same may be used at will. The lenses include the f1.5, f1.9, both of one-half inch focal length; the f2.5 of 23 millimeter, the f3.5 thirty-five mm. and 50 mm. Also a 35 mm. f4.2. Accessory wide-angle lenses are available for the f1.5, f1.9, and f2.5 lenses while filters are provided in yellow, orange and ultra-violet.

The variable speeds, the reverse motion, the three-lens turret and the fading glass for fadeouts—all provide means for duplicating the most ambitious results of 16 mm. cameras. Provided the user has the necessary patience and skill, this range of adjustments makes it possible for him to duplicate most of the effects seen on the professional screen.

In addition to the use of various adjustments in action photography, it is possible to produce very effective titles. The single exposure adjustment makes possible all kinds of animation for titles or other effects with the utmost facility and there is no question as to distortion of the action, or the exposure, as is the case when using the eight-frame adjustment.

- For the announcement about the new Bolex, see page 86, "A New 8 mm. Camera"—Ed.

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graphs, and one well worth following in all cases.

Many amateur movie makers fan the landscape, hoping thus to get one of those magnificent moving spectacles. Frequently, they wind up with a beautiful series of jerky blurs. Panorama has its uses, but they are few and far between. If you want to photograph a wide expanse of scenery, it's a good idea to do it in several scenes, changing positions and if necessary doing a little climbing. The final result will be much better than if the photographer uses the lazy man's method of standing still and counting on the camera to do all the work while he rotates it—irregularly and too swiftly in most cases.

**D**ON'T under-expose slow motion.

The normal rate at which film (not counting sound film) passes through a machine is 16 frames or single pictures a second. The more pictures that pass through in a second, the more movement is retarded. For semi-slow motion, which is 32 frames per second, give the camera one stop more. And for the real McCoy in slow motion, 64 frames per second, open the camera up another stop, or two stops from the normal position in which you would use the camera if you were just shooting 16 frames per second. Thus, if

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you were shooting at f8, you would open up to 5.6 for 32 frames and to f4 for 64 frames per second.

**VIOLENT** angles and violent perspectives frequently cause distortion. If the photographer is shooting trick stuff and wants distortion, okay. However, many photographers who do not want distortion find themselves with quite a collection of it, largely due to the violent angle at which they hold the camera. While getting used to any movie camera, a



• Distortion.

level or horizontal position is best. Afterwards, when the movie taker becomes more familiar with his machine, he learns by trial and error just how much of an angle he can shoot without getting weird distortions in his scenes.

**FOREGROUND** objects are a big help for adding depth to a scene. In shooting outdoors, for instance, you can get added depth by including in the picture some easily recognizable nearby objects, such for instance as a tree, person, or auto-



• Depth by contrast.

mobile, etc. Care must be exercised in choosing these foreground contrasts. It is best to use objects which are identifiable by their outlines since many times the foreground objects are not completely in focus. Look for foreground objects in which the outline identifies the object.

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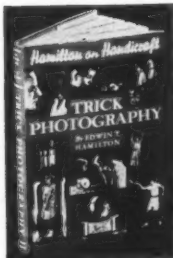
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